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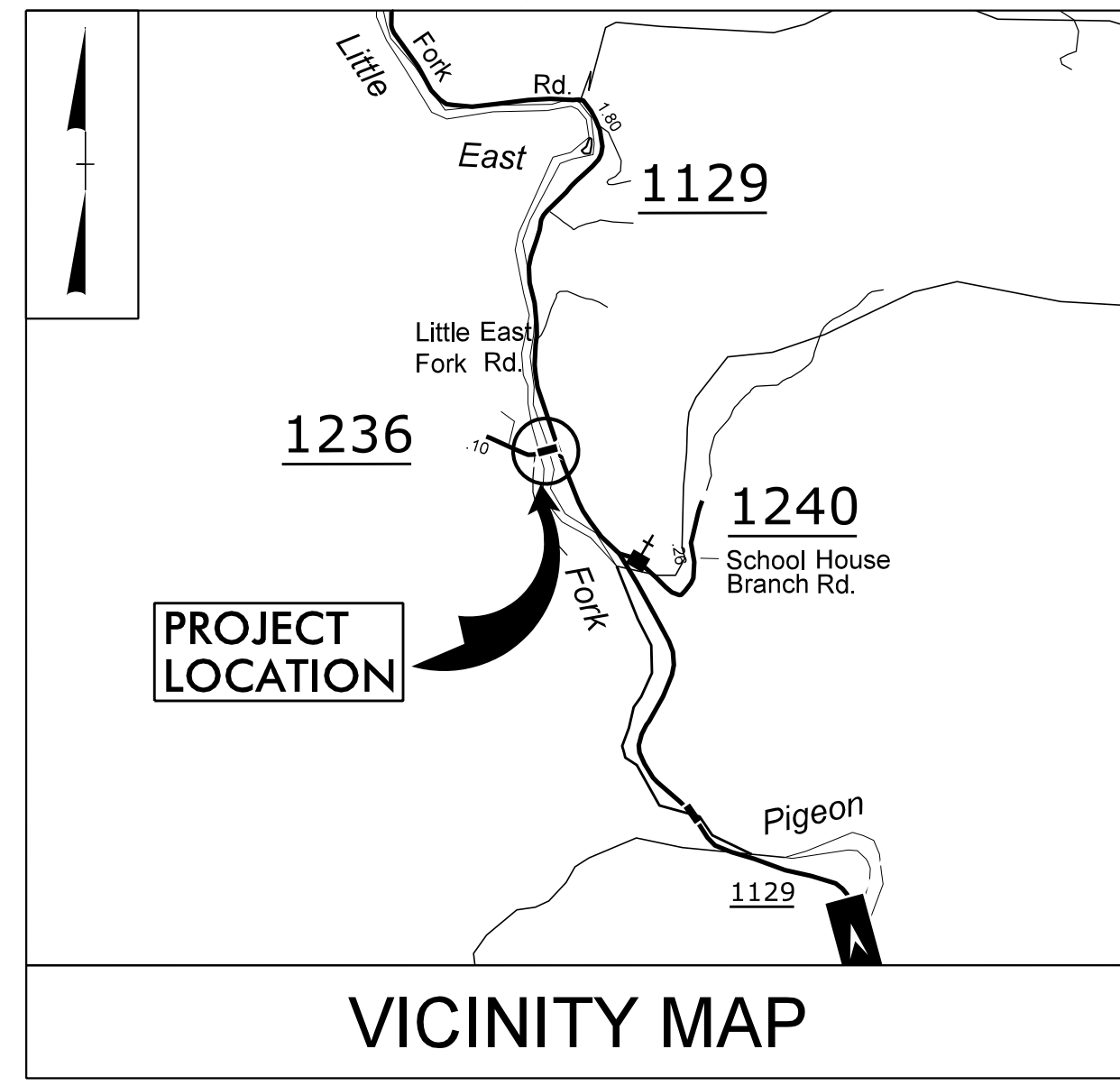
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09.08/2019

WBS PROJECT: 17BP.14.R.174

CONTRACT: DN00493

See Sheet 1A For Index of Sheets
See Sheet 1B For Symbology Sheet

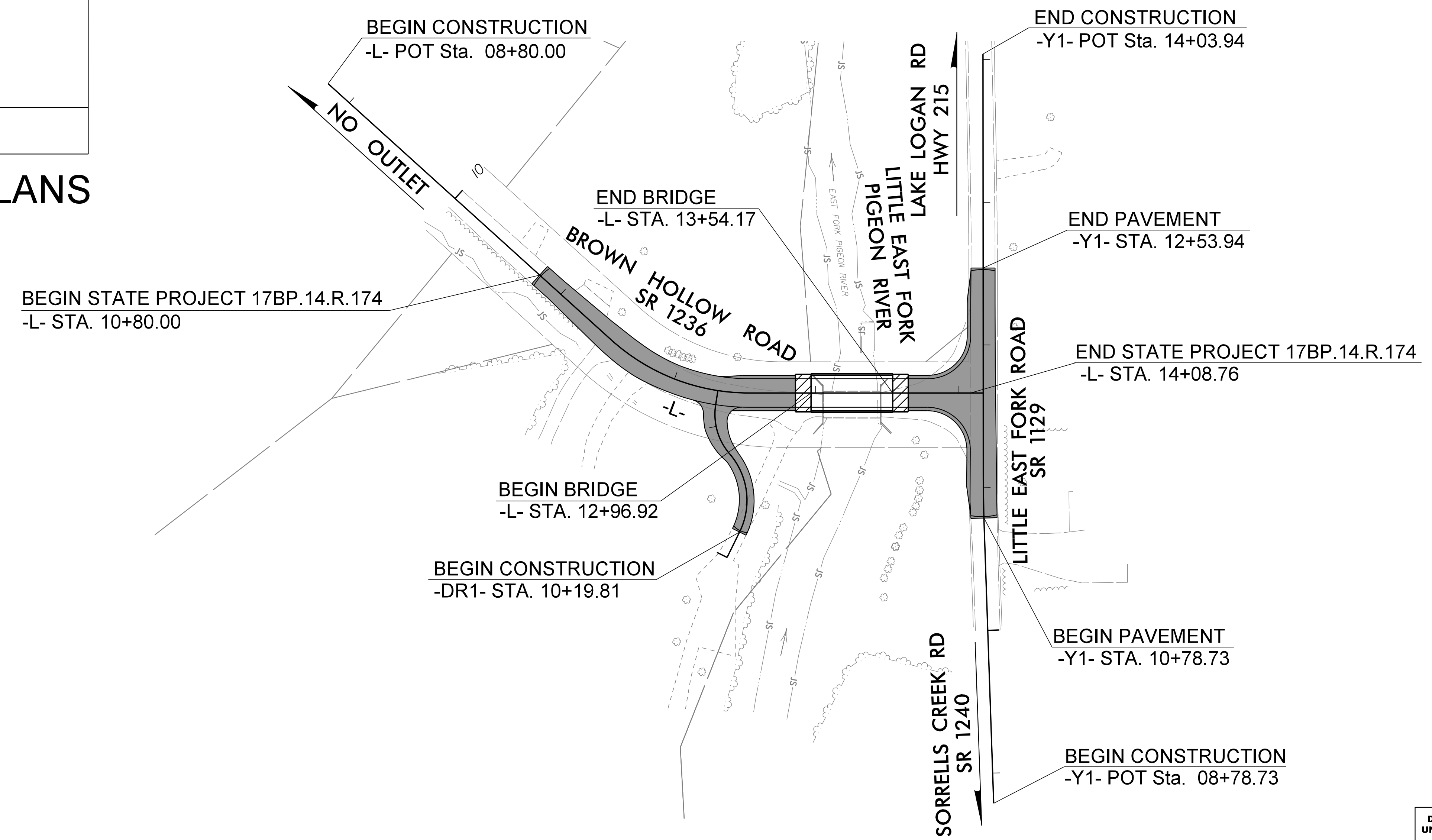
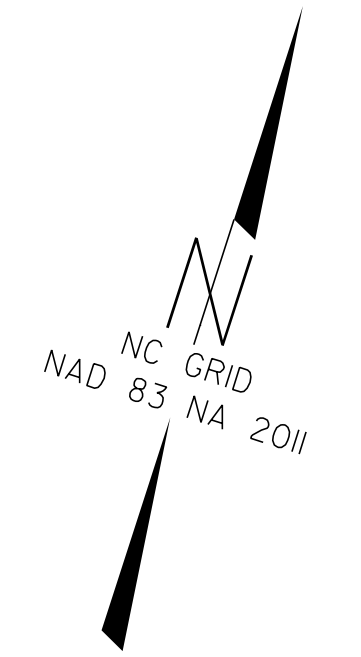


100% SUBMITTAL PLANS

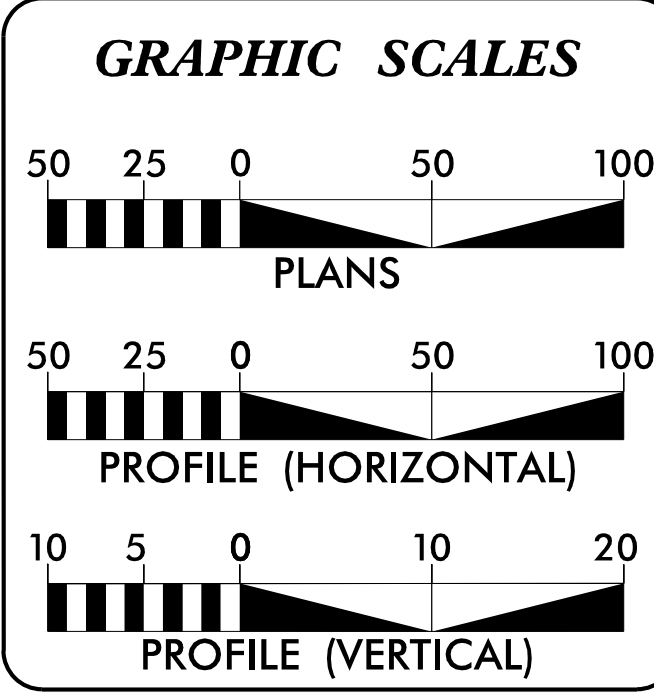
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
HAYWOOD COUNTY

**LOCATION: REPLACEMENT OF BRIDGE No. 401
OVER LITTLE EAST FORK PIGEON RIVER
ON SR 1236 (BROWN HOLLOW RD)**
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.174	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.14.PE.174	N/A	PE	
17BP.14.ROW.174	N/A	RIGHT-OF-WAY	
17BP.14.R.174	N/A	CONSTRUCTION	



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA
ADT 1995 = 20 VPD
V = 20 MPH*

*BRIDGE DESIGN SPEED INVESTIGATION

PROJECT LENGTH

LENGTH ROADWAY PROJECT 17BP.14.R.174	=	0.051 MI
LENGTH STRUCTURE PROJECT 17BP.14.R.174	=	0.011 MI
TOTAL LENGTH PROJECT 17BP.14.R.174	=	0.062 MI

PREPARED IN THE OFFICE OF:
wsp
WSP USA
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
TEL: 1-919-836-0440
FAX: 1-919-836-4099
LICENSE NO. F-0168

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2018 STANDARD SPECIFICATIONS

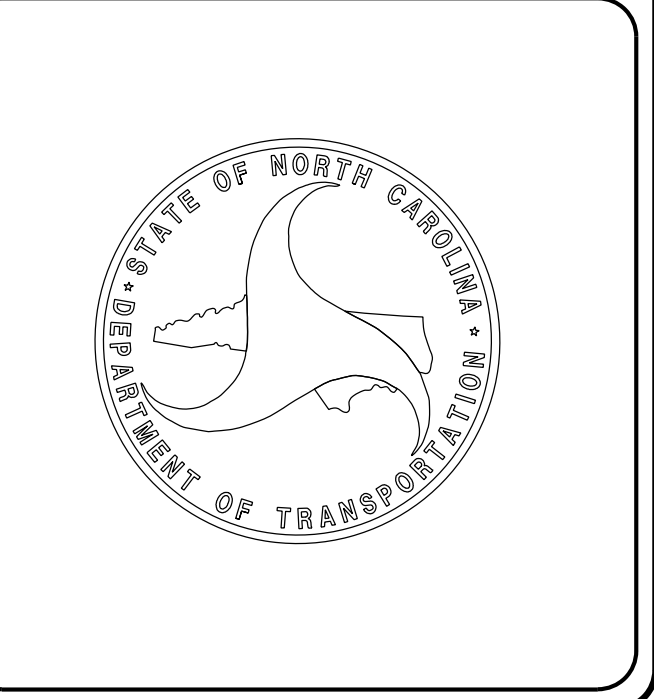
RIGHT OF WAY DATE:
APRIL 26, 2017

LETTING DATE:
MARCH 09, 2021

NCDOT CONTACT: **ADAM DOCKERY**
DIVISION 14 BRIDGE PROGRAM MANAGER

HYDRAULICS ENGINEER
2/17/2021
SEAL 043232
Vidya Mohandas
SIGNATURE: Vidya Mohandas
P.E.

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 33290
RONYELL A. THIGPEN
SIGNATURE: Ronyell Thigpen
P.E.



9:27:55 AM
17BP.14.R.174.430401_Rdy_tsh.dgn
2/17/2021

12/28/2020 11:17:33 AM 11544604407 - 2015 W Divisions Planning & Design On-Call\1188350C_Group_3_Bridges\17BPJ4.RJ74_430401\Foodkwa\Proc\17BPJ4.RJ74_RDY_01A.dgn 8/17/99

INDEX OF SHEETS	
SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
RW02C-1	SURVEY CONTROL SHEET
2A-1	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2C-1	7' GUARDRAIL POST
2C-2	GUARDRAIL ANCHOR UNIT TYPE III
2C-3	GUARDRAIL INSTALLATION
2C-4	SHOULDER WEDGE DETAILS
3B-1	MISCELLANEOUS SUMMARIES (EARTHWORK, GUARDRAIL, PAVEMENT REMOVAL, & SHOULDER BERM GUTTER)
3D-1	DRAINAGE SUMMARY
4	PLAN
5	PROFILE SHEET
TMP-1 THRU TMP-5	TRAFFIC MANAGEMENT PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION
UO-1 THRU UO-2	UTILITIES BY OTHERS
X-1A	CROSS-SECTION SUMMARY
X-1 THRU X-8	CROSS-SECTIONS
S-1 THRU S-23	STRUCTURE PLANS
SN	STANDARD NOTE SHEET

GENERAL NOTES: 2018 SPECIFICATIONS

EFFECTIVE: 01-16-2018
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

Power: Haywood EMC

Telephone: AT&T

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO. TITLE

DIVISION 2 - EARTHWORK

200.02 Method of Clearing - Method II

225.02 Guide for Grading Subgrade - Secondary and Local

225.04 Method of Obtaining Superelevation - Two Lane Pavement

DIVISION 3 - PIPE CULVERTS

300.01 Method of Pipe Installation

DIVISION 4 - MAJOR STRUCTURES

422.02 Bridge Approach Fills - Type II Modified Approach Fill

DIVISION 5 - SUBGRADE, BASES AND SHOULDERS

560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I

DIVISION 8 - INCIDENTALS

838.01 Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew

838.11 Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew

840.00 Concrete Base Pad for Drainage Structures

840.14 Concrete Drop Inlet - 12" thru 30" Pipe

840.15 Brick Drop Inlet - 12" thru 30" Pipe

840.16 Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15

840.25 Anchorage for Frames - Brick or Concrete or Precast

840.29 Frames and Narrow Slot Flat Grates

840.35 Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates

840.45 Precast Drainage Structure

840.46 Traffic Bearing Precast Drainage Structure

840.66 Drainage Structure Steps

840.71 Concrete and Brick Pipe Plug

846.04 Drop Inlet Installation in Shoulder Berm Gutter

862.01 Guardrail Placement

862.02 Guardrail Installation

876.01 Rip Rap in Channels

876.02 Guide for Rip Rap at Pipe Outlets

876.04 Drainage Ditches with Class 'B' Rip Rap

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Computed Property Corner	-----
Property Monument	□ EDM
Parcel/Sequence Number	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	----- WLB
Proposed Wetland Boundary	----- WLB
Existing Endangered Animal Boundary	----- EAB
Existing Endangered Plant Boundary	----- EPB
Existing Historic Property Boundary	----- HPB
Known Contamination Area: Soil	☠-S-☠
Potential Contamination Area: Soil	??-S-??
Known Contamination Area: Water	☠-W-☠
Potential Contamination Area: Water	??-W-??
Contaminated Site: Known or Potential	☠??

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□
Building	□
School	□
Church	□
Dam	□

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
Jurisdictional Stream	----- JS
Buffer Zone 1	----- BZ 1
Buffer Zone 2	----- BZ 2
Flow Arrow	←
Disappearing Stream	-----
Spring	○
Wetland	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	-----

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	◆
Exist Permanent Easement Pin and Cap	◇
New Permanent Easement Pin and Cap	◆
Vertical Benchmark	⊠
Existing Right of Way Marker	△
Existing Right of Way Line	-----
New Right of Way Line	----- R/W
New Right of Way Line with Pin and Cap	----- R/W ▲
New Right of Way Line with Concrete or Granite RW Marker	----- R/W
New Control of Access Line with Concrete CA Marker	----- C/A
Existing Control of Access	-----
New Control of Access	-----
Existing Easement Line	----- E
New Temporary Construction Easement	----- E
New Temporary Drainage Easement	----- TDE
New Permanent Drainage Easement	----- PDE
New Permanent Drainage / Utility Easement	----- DUE
New Permanent Utility Easement	----- PUE
New Temporary Utility Easement	----- TUE
New Aerial Utility Easement	----- AUE

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	----- C
Proposed Slope Stakes Fill	----- F
Proposed Curb Ramp	----- CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊙
Pavement Removal	-----

VEGETATION:

Single Tree	○
Single Shrub	○

Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	----- Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	----- CONC
Bridge Wing Wall, Head Wall and End Wall	----- CONC WW
MINOR:	
Head and End Wall	----- CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊙
Storm Sewer	----- S

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊙
Power Line Tower	⊠
Power Transformer	⊠
U/G Power Cable Hand Hole	-----
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	----- P
U/G Power Line LOS C (S.U.E.*)	----- P
U/G Power Line LOS D (S.U.E.*)	----- P

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊙
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	-----
U/G Telephone Cable LOS B (S.U.E.*)	----- T
U/G Telephone Cable LOS C (S.U.E.*)	----- T
U/G Telephone Cable LOS D (S.U.E.*)	----- T
U/G Telephone Conduit LOS B (S.U.E.*)	----- TC
U/G Telephone Conduit LOS C (S.U.E.*)	----- TC
U/G Telephone Conduit LOS D (S.U.E.*)	----- TC
U/G Fiber Optics Cable LOS B (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS C (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS D (S.U.E.*)	----- T FO

WATER:

Water Manhole	⊙
Water Meter	○
Water Valve	⊗
Water Hydrant	⊙
U/G Water Line LOS B (S.U.E.*)	----- W
U/G Water Line LOS C (S.U.E.*)	----- W
U/G Water Line LOS D (S.U.E.*)	----- W
Above Ground Water Line	----- A/G Water

TV:

TV Pedestal	⊠
TV Tower	⊗
U/G TV Cable Hand Hole	-----
U/G TV Cable LOS B (S.U.E.*)	----- TV
U/G TV Cable LOS C (S.U.E.*)	----- TV
U/G TV Cable LOS D (S.U.E.*)	----- TV
U/G Fiber Optic Cable LOS B (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS C (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS D (S.U.E.*)	----- TV FO

GAS:

Gas Valve	◇
Gas Meter	⊙
U/G Gas Line LOS B (S.U.E.*)	----- G
U/G Gas Line LOS C (S.U.E.*)	----- G
U/G Gas Line LOS D (S.U.E.*)	----- G
Above Ground Gas Line	----- A/G Gas
SANITARY SEWER:	
Sanitary Sewer Manhole	⊙
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
SS Forced Main Line LOS B (S.U.E.*)	----- FSS
SS Forced Main Line LOS C (S.U.E.*)	----- FSS
SS Forced Main Line LOS D (S.U.E.*)	----- FSS

MISCELLANEOUS:

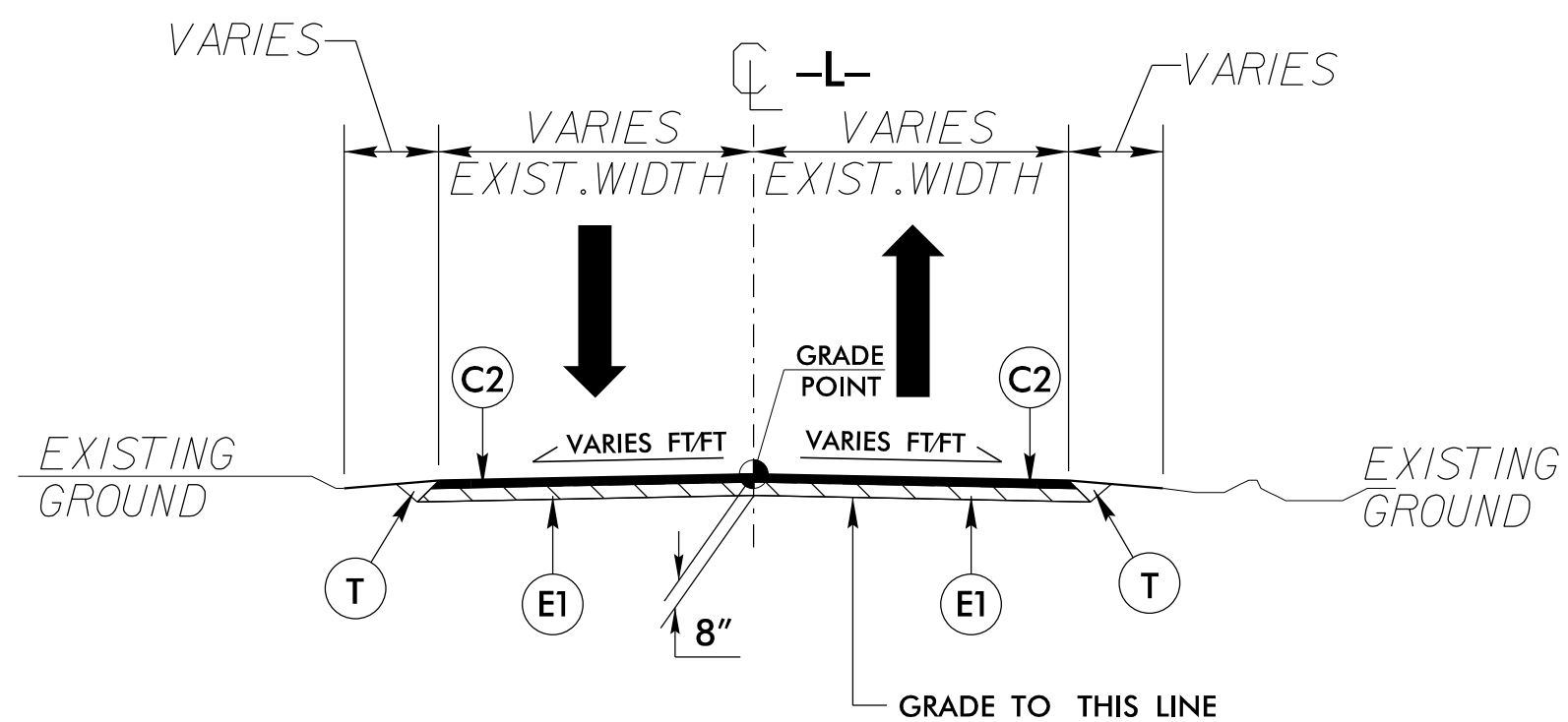
Utility Pole	●
Utility Pole with Base	⊠
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line LOS B (S.U.E.*)	----- 70TL
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	⊠ UST
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	⊙
U/G Test Hole LOS A (S.U.E.*)	⊙
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

8/17/99

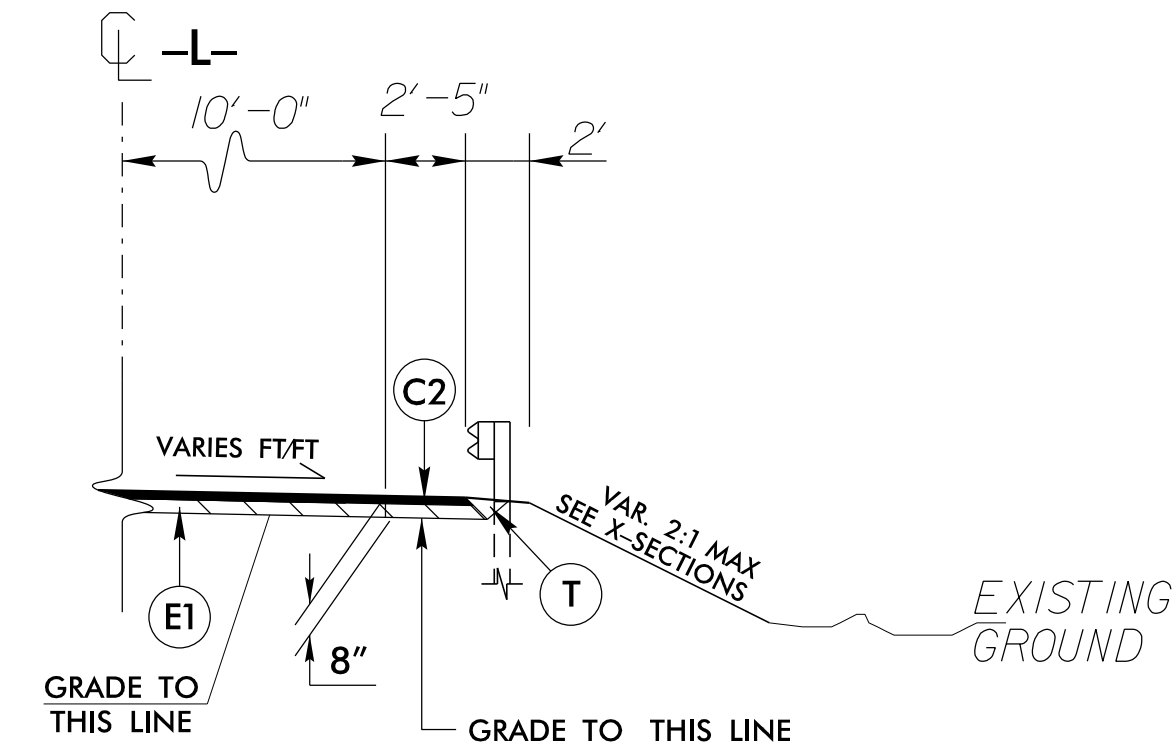
REVISIONS

wsp
 WSP USA
 434 FAYETTEVILLE STREET
 SUITE 1500
 RALEIGH, NC 27601
 TEL: 1.919.836.4040
 FAX: 1.919.836.4099
 LICENSE NO. F-0165

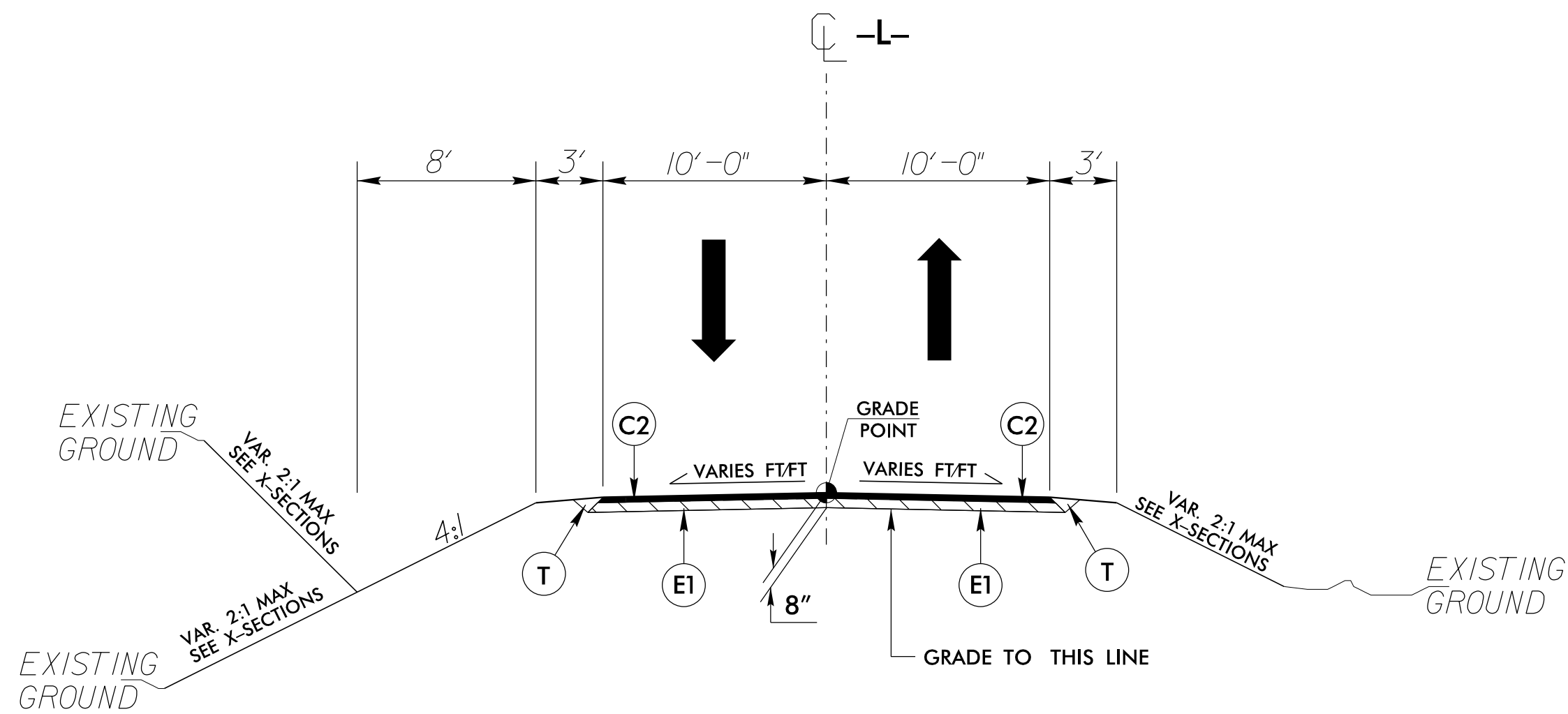
PROJECT REFERENCE NO. 17BPJ4.RJ74	SHEET NO. 2A-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



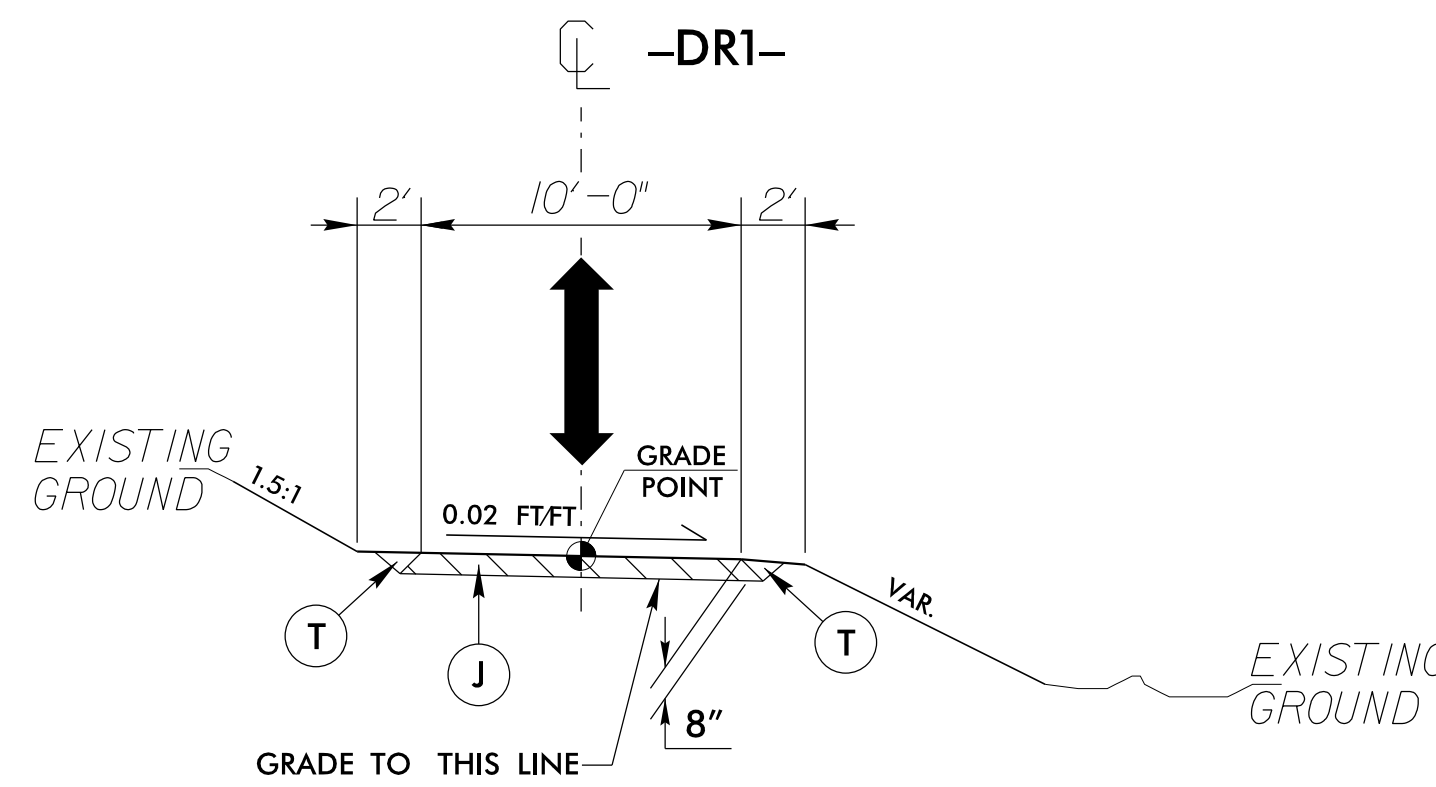
TYPICAL SECTION NO. 1
 -L- STA. 10+80.00 TO STA. 12+00.00



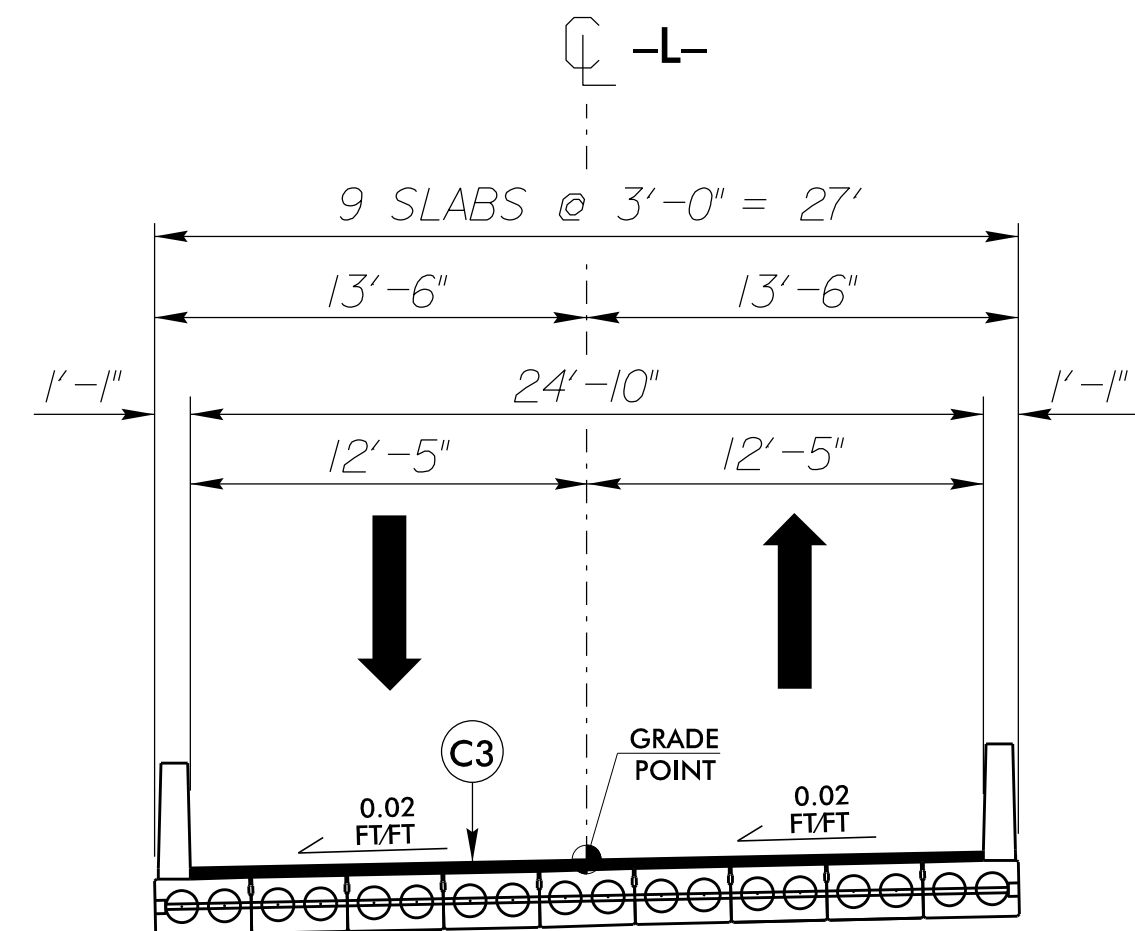
DETAIL A GUARDRAIL
 (USE IN CONJUNCTION W/TYP. NO. 2)
 -L- STA. 12+48.76 TO 12+98.76 (RT)
 -L- STA. 12+48.76 TO 12+98.76 (LT)
 -L- STA. 13+52.34 TO 14+06.40 (LT)
 -L- STA. 13+52.34 TO 14+08.58 (RT)



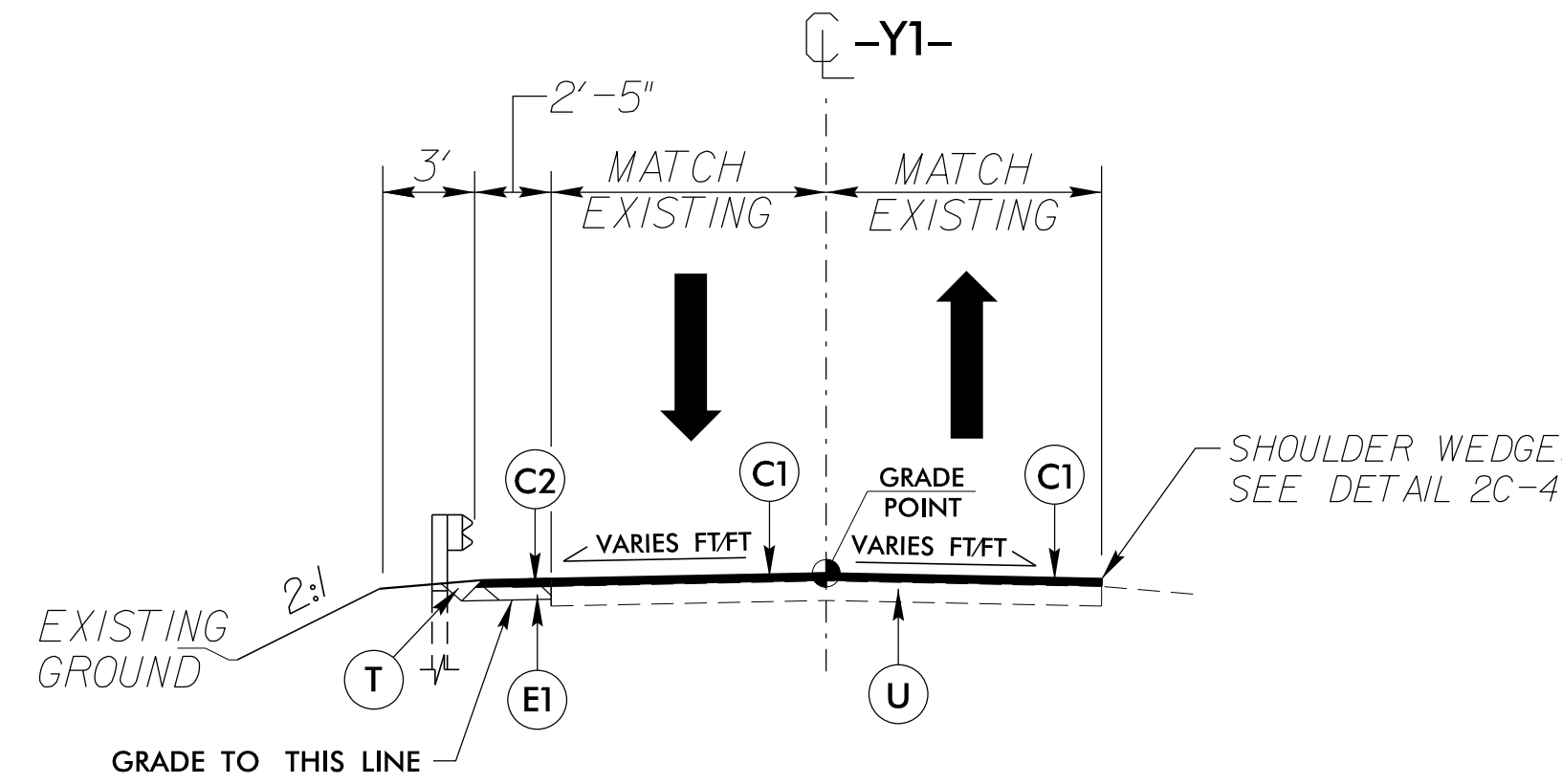
TYPICAL SECTION NO. 2
 (USE IN CONJUNCTION WITH DETAIL A)
 -L- STA. 12+00.00 TO STA. 12+96.92 (BEGIN BRIDGE)
 -L- STA. 13+54.17 (END BRIDGE) TO STA. 14+08.76



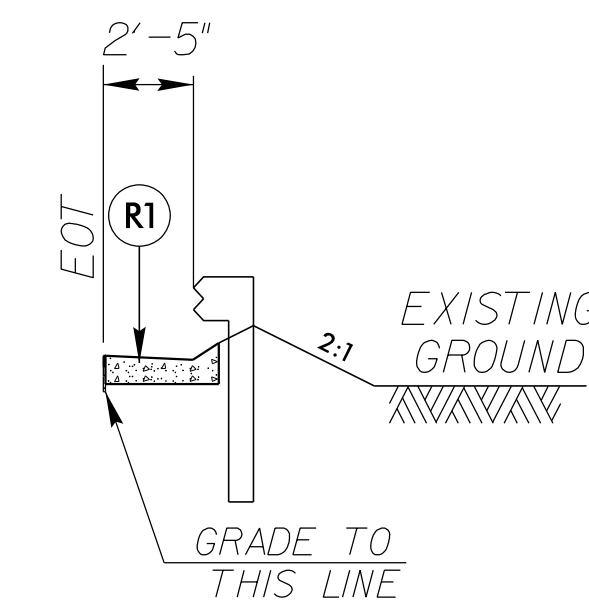
TYPICAL SECTION NO. 3
 -DR1- STA. 10+19.81 TO STA. 11+15.27



BRIDGE TYPICAL SECTION
 -L- STA. 12+96.92 TO STA. 13+54.17



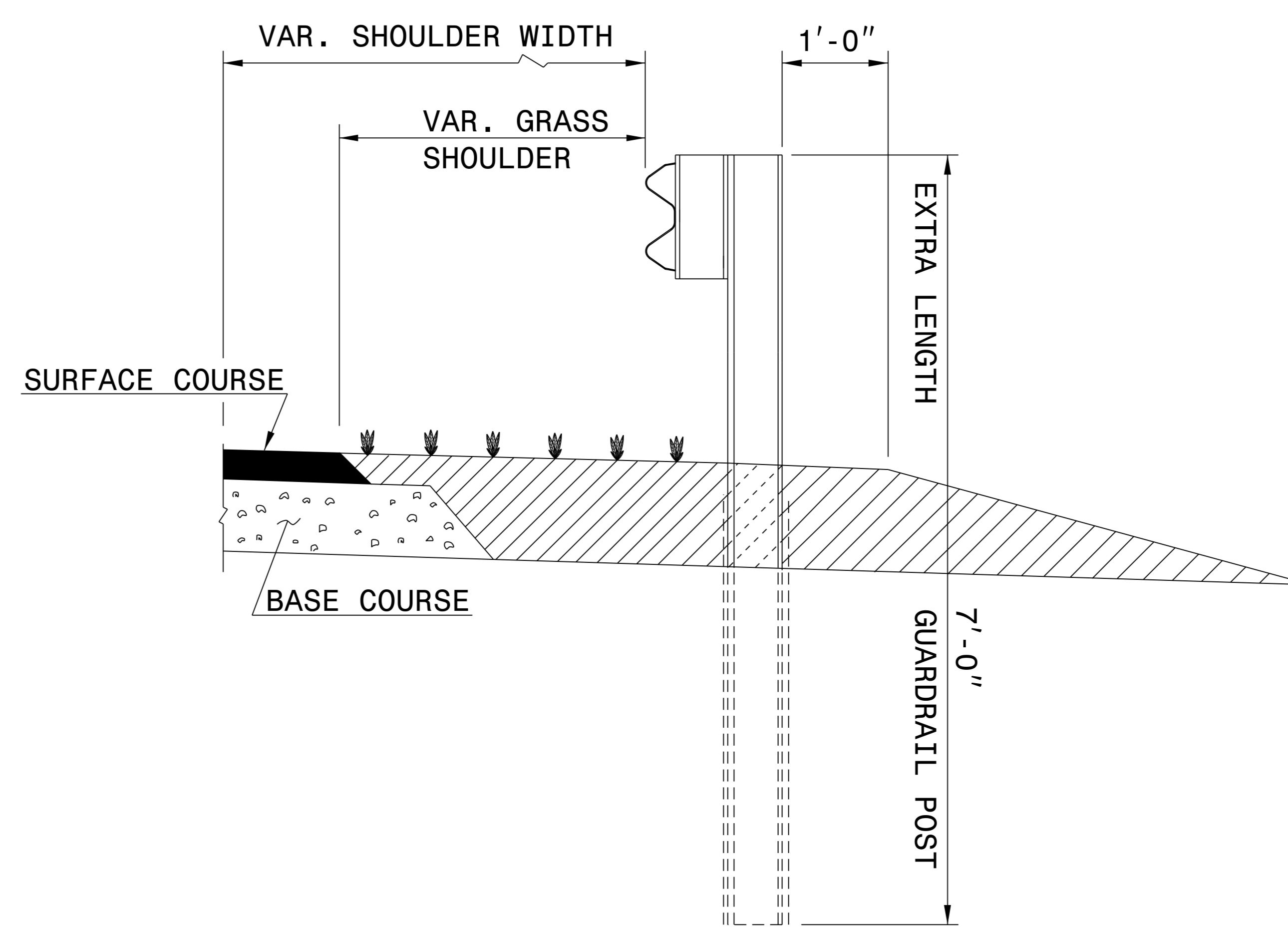
TYPICAL SECTION NO. 4
 -Y1- STA. 10+78.73 TO STA. 12+53.94



DETAIL B SHOULDER BERM GUTTER
 (USE IN CONJUNCTION W/TYP. NO. 2)
 -L- STA. 13+65.04 TO 13+80.00 (LT)

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1 1/2" IN DEPTH OR GREATER THAN 2" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
J	PROP. 8" AGGREGATE BASE COURSE.
R1	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.

3:43:55 PM
 17BPJ4.RJ74.dwg
 8/27/2019



PLANTING NOTES: ALL PLANTINGS TO BE INSTALLED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, 1995 EDITION, CHAPTER 20, SECTION 20.04, PART 1, 2, AND 3. REFER TO THE PLANTING SCHEDULE FOR SPECIFIC PLANTING MATERIALS AND QUANTITIES. PLANTING NOTES: ALL PLANTINGS TO BE INSTALLED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, 1995 EDITION, CHAPTER 20, SECTION 20.04, PART 1, 2, AND 3. REFER TO THE PLANTING SCHEDULE FOR SPECIFIC PLANTING MATERIALS AND QUANTITIES.



CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
7' GUARDRAIL POST	
ORIGINAL BY: L. Robinson	DATE: 1995
MODIFIED BY: L. Robinson	DATE: Feb. 1996
CHECKED BY:	DATE:
FILE SPEC.: s:7'postguardrail.dgn	

I4-DEC-2017 10:36
 S:\Contracts\Special Details\Standard Drawings\2018 Standard Drawings\Division 8\0862d0301.dgn
 Jhowerton AT_CSD-292595

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ROADWAY DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE	SHEET 1 OF 7 862D03
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;">ELEVATION</p> </div> <div style="width: 45%;"> <p style="text-align: center;">PLAN VIEW</p> </div> </div> <p style="font-size: small;"> NOTE: **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER. *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11 1/2" IF CONCRETE BACKWALL IS NOT PRESENT. -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" X 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB. -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER). -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW. -SEE SHEET 3 FOR POST SECTIONS 1 THRU 9. </p>		
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE		

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ROADWAY DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER	SHEET 2 OF 7 862D03
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;">ELEVATION</p> </div> <div style="width: 45%;"> <p style="text-align: center;">PLAN VIEW</p> </div> </div> <p style="font-size: small;"> NOTE: **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER. *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11 1/2" IF CONCRETE BACKWALL IS NOT PRESENT. -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" X 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB. -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER). -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW. -SEE SHEET 3 FOR POST SECTIONS 1 THRU 9. </p>		
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER		

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS
AND DEVELOPMENT UNIT

Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

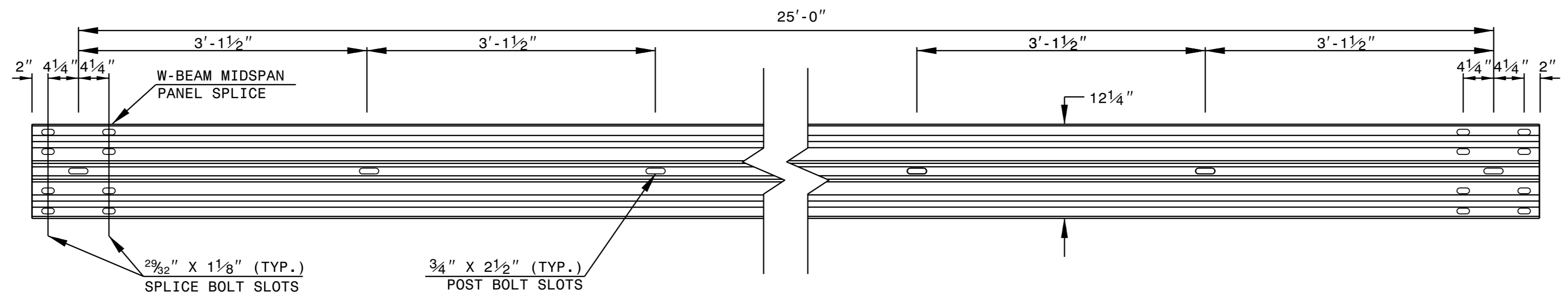
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MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.:	



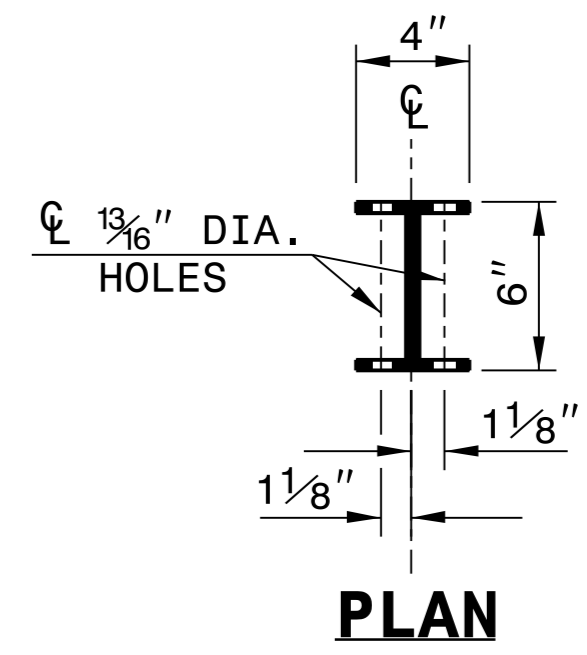
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

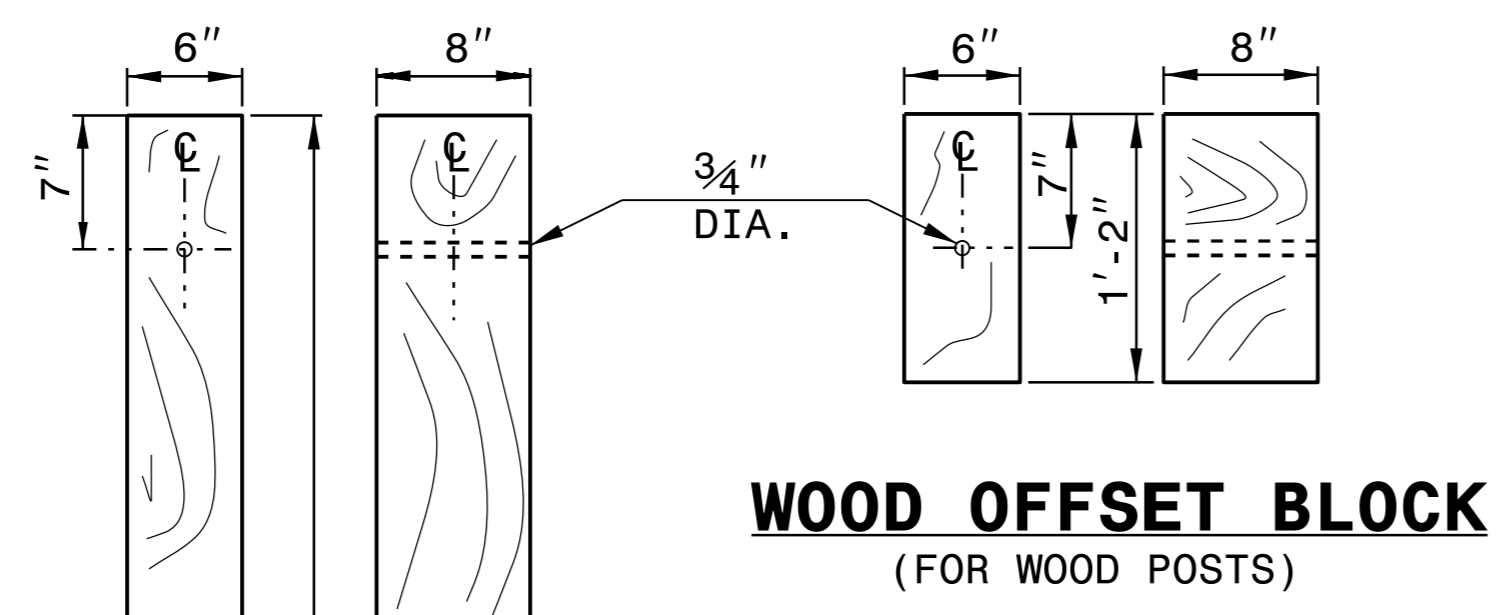
SHEET 6 OF 8
862D02



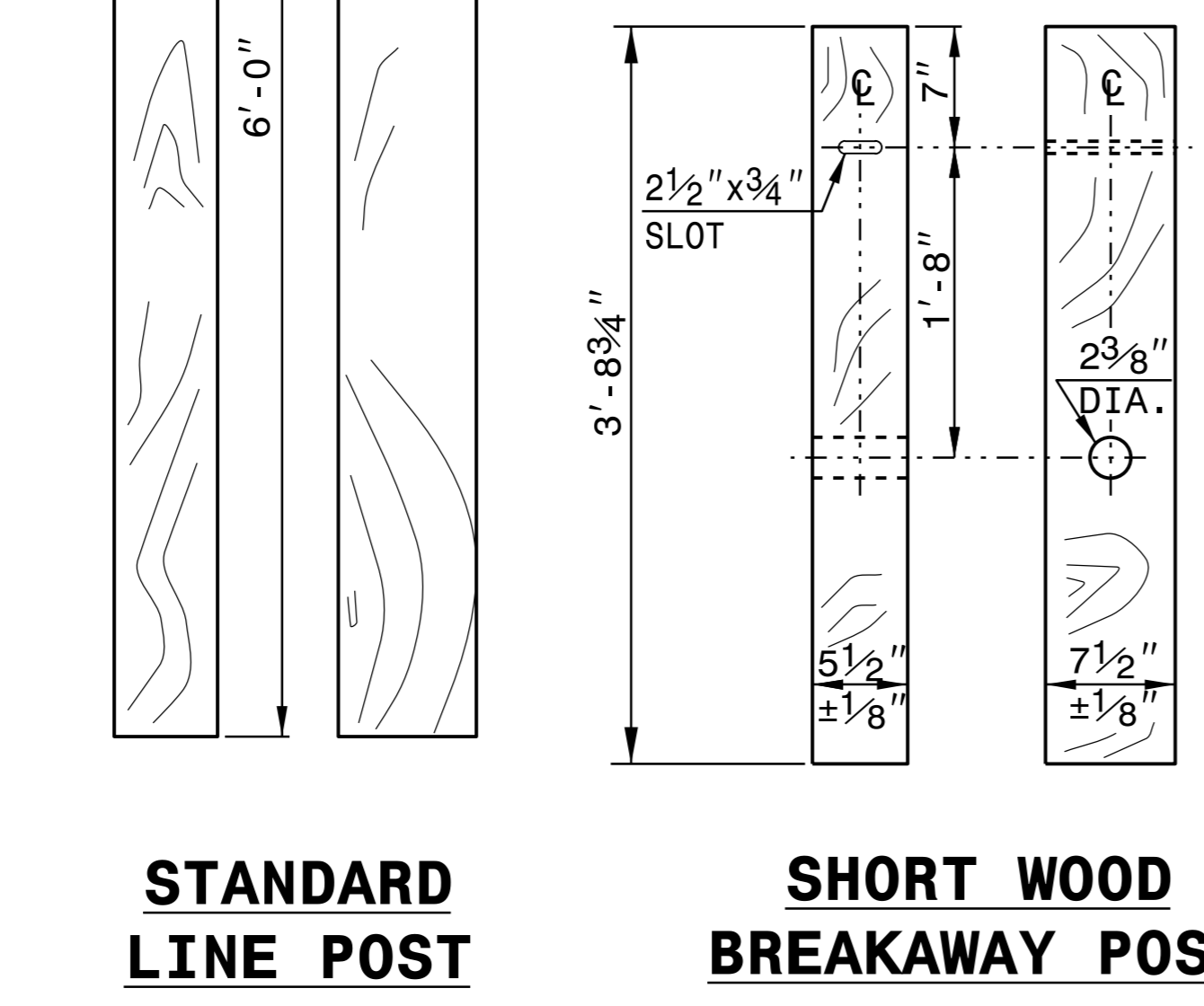
STANDARD W-BEAM GUARDRAIL



PLAN

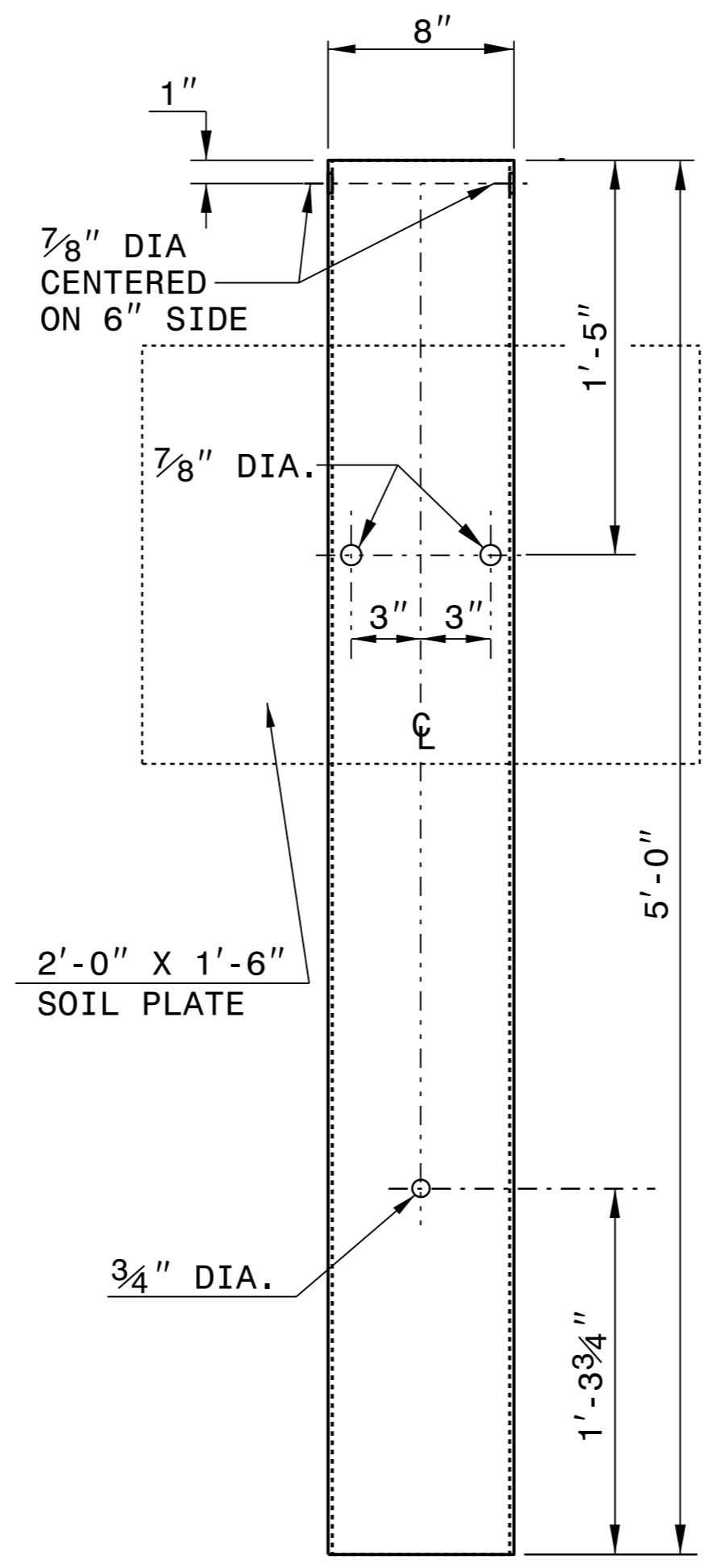


**WOOD OFFSET BLOCK
(FOR WOOD POSTS)**

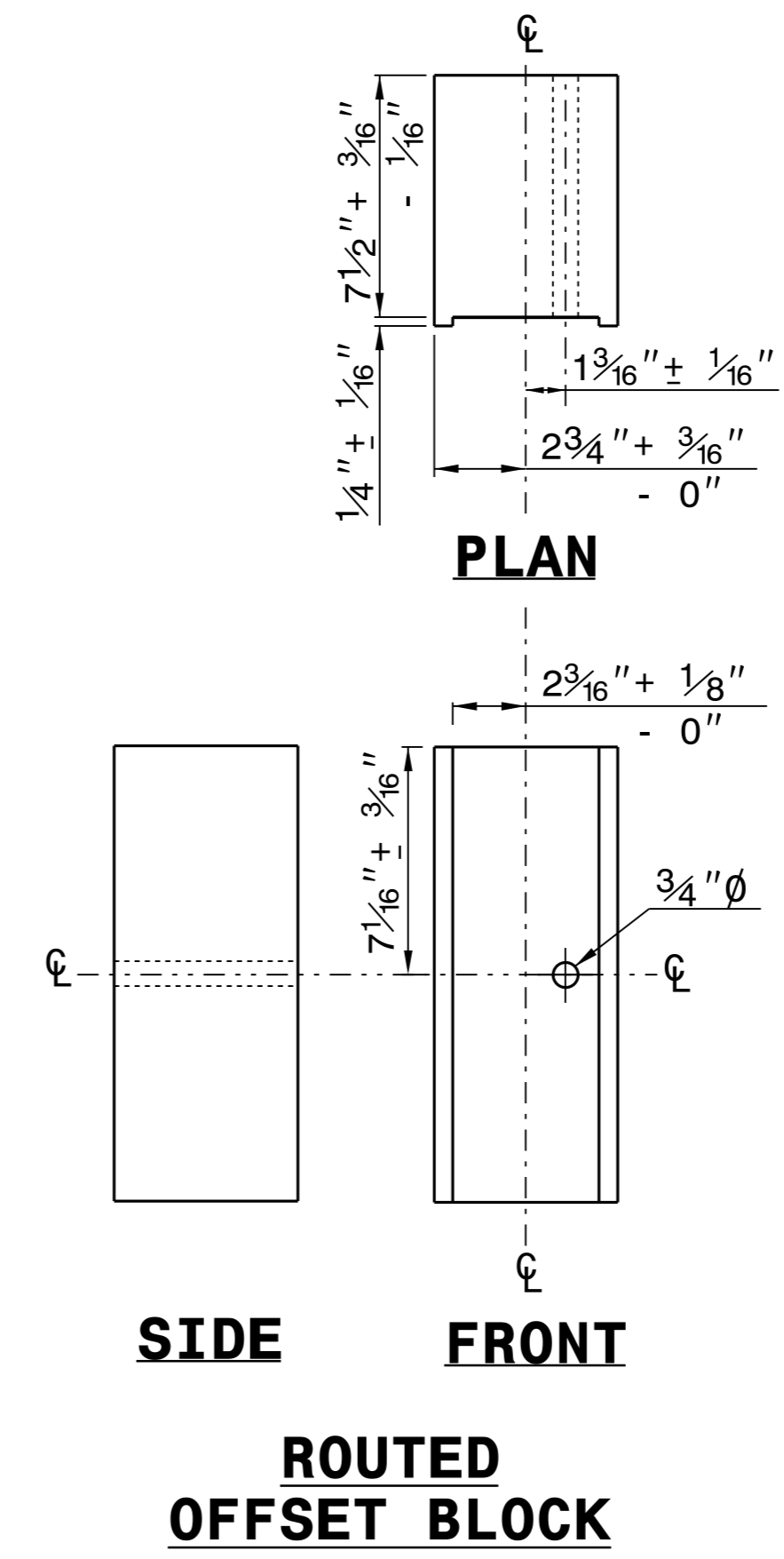


**STANDARD
LINE POST**

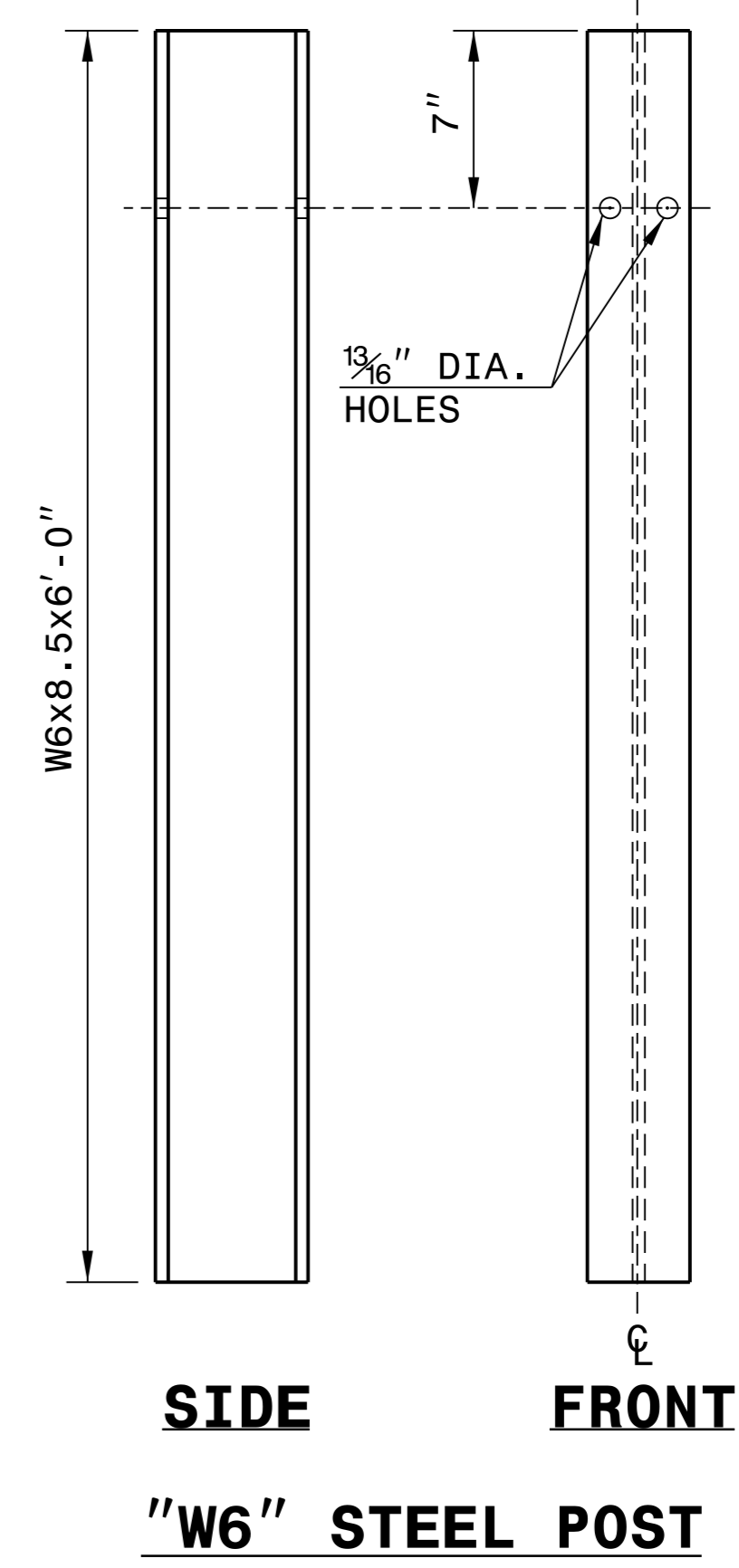
**SHORT WOOD
BREAKAWAY POST**



**STEEL TUBE
TS 6"x8"x0.1875"**



**ROUTED
OFFSET BLOCK**



W6 STEEL POST

SYSTEM PARTS

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02

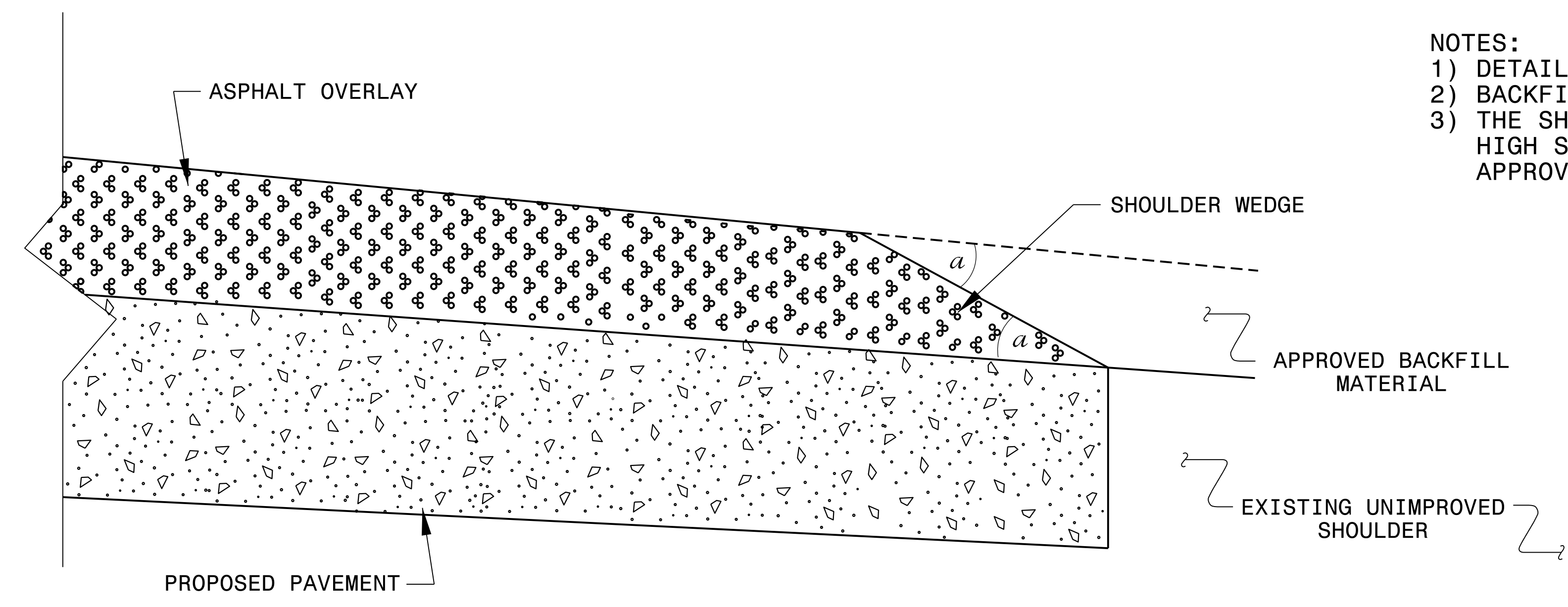


**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

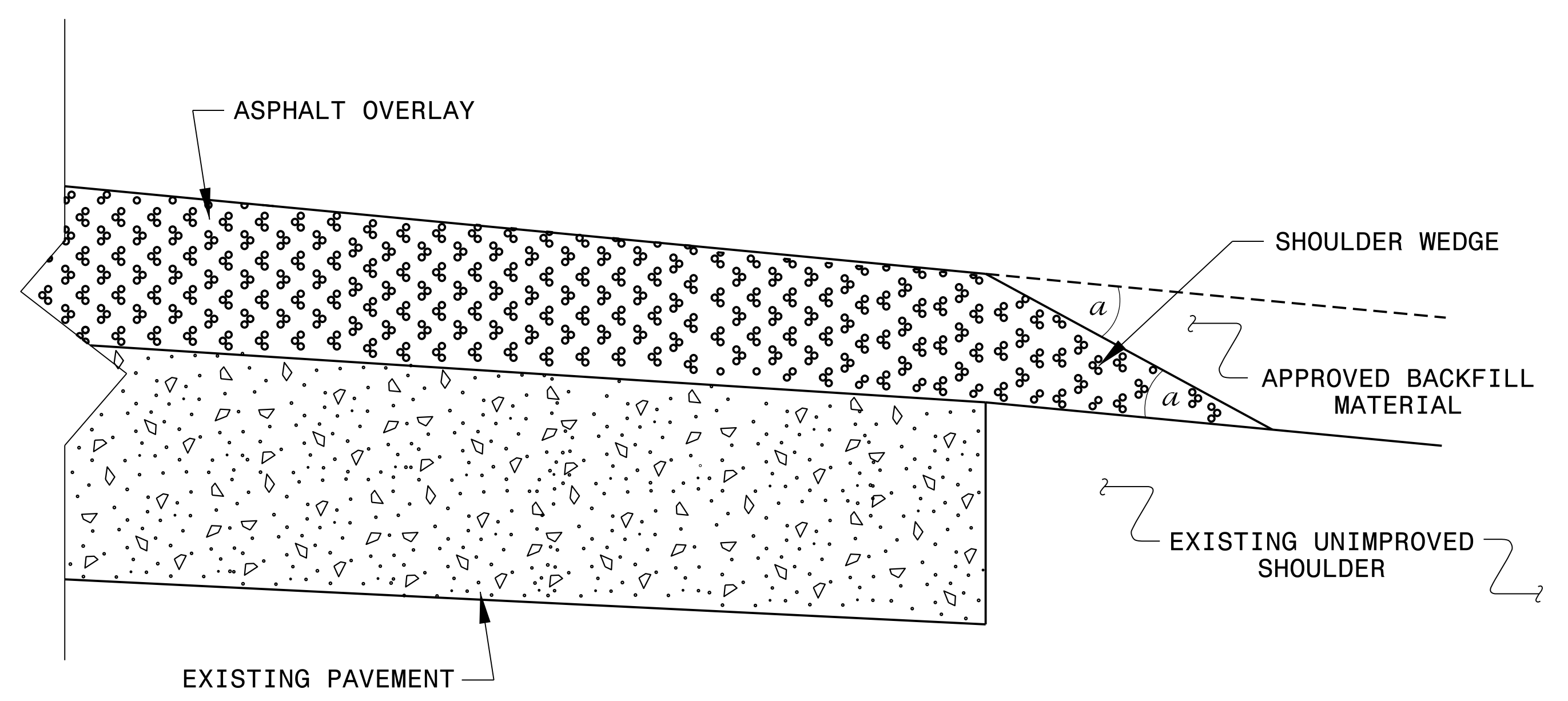
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ORIGINAL BY: J. HOWERTON	DATE: 3-7-2018
MODIFIED BY:	DATE:
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FILE SPEC.:	

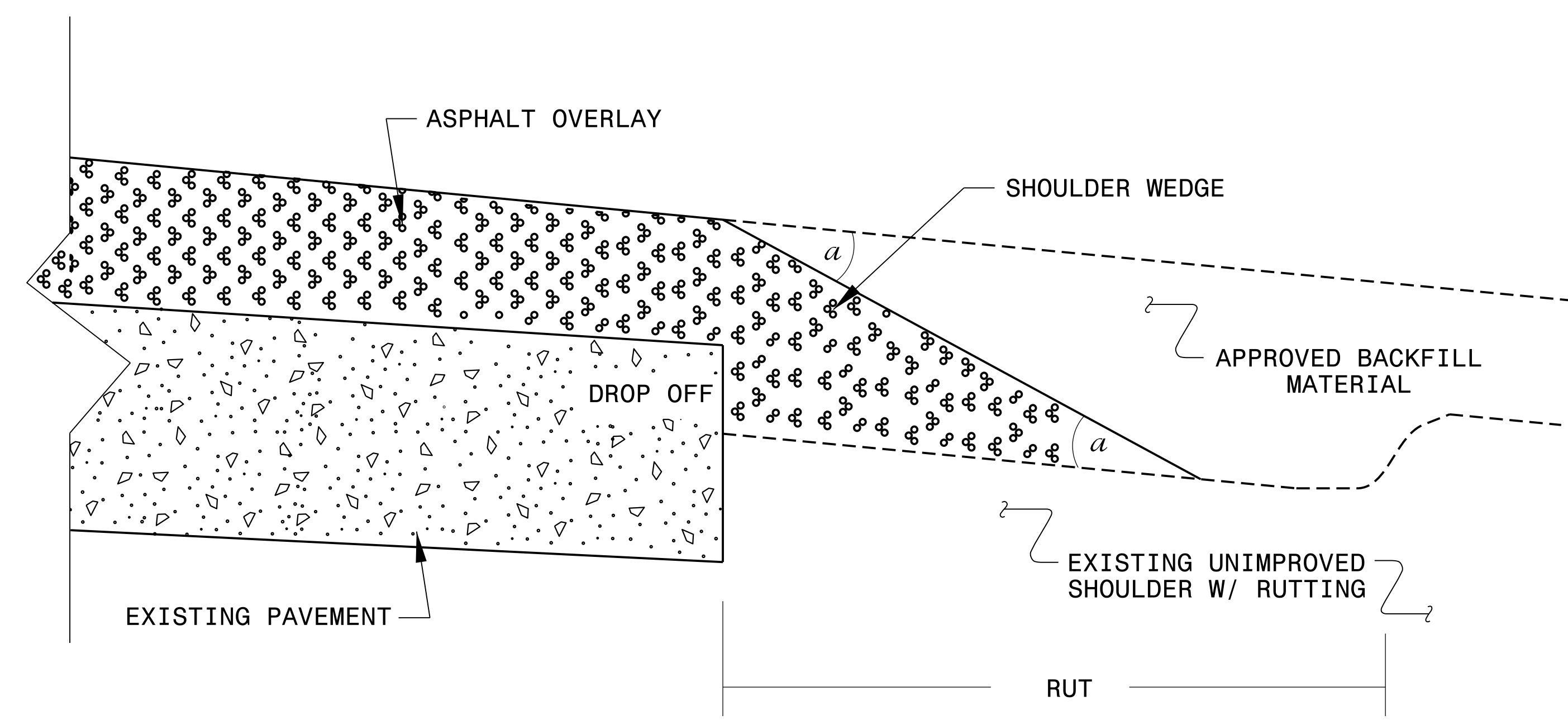
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.
 - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
 - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT AS APPROVED BY THE ENGINEER.



SHOULDER WEDGE DETAIL
 (Resurfacing Projects w/ Widening or
 with Existing Paved Shoulder having no dropoffs)



SHOULDER WEDGE DETAIL
 (Resurfacing Projects w/ NO Widening)



SHOULDER WEDGE DETAIL
 (Resurfacing Adjacent to
 Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°



CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
SHOULDER WEDGE DETAILS	
ORIGINAL BY: T. SPELL	DATE: 7-19-11
MODIFIED BY:	DATE: 2/2/16
CHECKED BY:	DATE:
FILE SPEC.: s:\usr\details\stand\shoulderwedgedetail.dgn	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

12-SEP-2018 10:10 S:\Contracts\Resurfacing Projects\Shoulder Wedge Details\Revised Shoulder Wedge Detail.dgn J:\over-ton AT_CSD-292595

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

SHOULDER BERM GUTTER SUMMARY

PAVEMENT REMOVAL SUMMARY

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV. (CY)	EMBANK. + % (CY)	BORROW (CY)	WASTE (CY)
10+80.00 -L- LT.	12+96.92 -L- LT.	71	52		19
SUBTOTAL 1:					
10+80.00 -L- RT.	12+96.92 -L- RT.	46	1		45
10+19.81 -DRI-	11+11.84 -DRI-	8	6		2
SUBTOTAL 2:					
13+54.17 -L- LT.	13+75.00 -L- LT.	2	8	6	
13+54.17 -L- RT.	13+75.00 -L- RT.	6	0		6
10+78.73 -YI-	12+53.94 -YI-	13	0		13
SUBTOTAL 3:					
		21	8	6	19
TOTAL:					
		146	67	6	85
WASTE IN LIEU OF BORROW:					
				-6	-6
PROJECT TOTAL:					
		146	67	0	79
GRAND TOTALS:					
		146	67		79
SAY: 150					

SURVEY LINE	STATION	STATION	LENGTH
L	13+65.04	13+80.00	15'
			TOTAL: 15'
			SAY: 15'

LINE	STATION	STATION	LOCATION L/R/V/CL	YD ²
-L-	10+80.00	13+04.90	CL	496.97
-L-	13+46.28	14+08.76	CL	274.27
				TOTAL: 771.24 SY
				SAY: 780

NOTE: APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING."

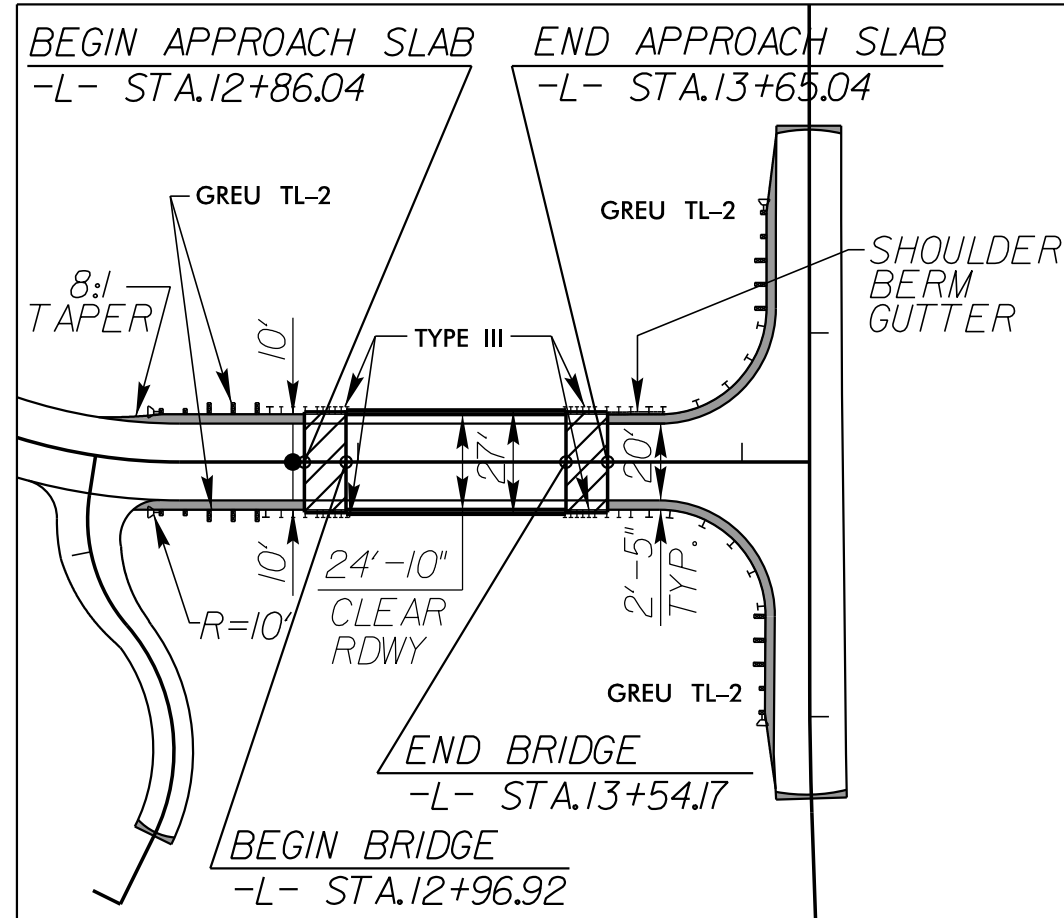
"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
 G = GATING IMPACT ATTENUATOR TYPE 350
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS										IMPACT ATTENUATOR TYPE 350			EXTRA LENGTH GUARDRAIL POSTS (EA)	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS					
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	XI MOD	TYPE III	GREU TL-2	M-350	XIII	CAT-1	VI MOD	BIC	AT-1	EA															
																						EA	G	NG													
-L-	12+48.04	12+98.04	LT	50.00'				12+98.04	2'-5"	4'-5"	25'	0.5'	1	1																							
-L-	12+48.76	12+98.76	RT	50.00'				12+98.76	2'-5"	4'-5"	25'	0.5'	1	1																							
-L-	13+52.34	14+06.40	LT	50.00'	43.50'			13+52.34	2'-5"	4'-5"	25'	0.5'	1	1																							
-L-	13+52.34	14+05.98	RT	50.00'	43.50'			13+52.34	2'-5"	4'-5"	25'	25'	0.5'	1	1																						
SUBTOTAL				200.00'	87.00'										1	1																					
LESS DEDUCTIONS																																					
				GREU TL-2 (4 x 25) =	100'																																
				TYPE III (4 x 18.75) =	75'																																
SUBTOTAL				25.00'																																	
TOTALS				25.00'	87.00'											4	4																				
SAY				25.00'	100.00'			ADDITIONAL GUARDRAIL POSTS = 5								4	4																				

6/21/00
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PROJECT REFERENCE NO. 17BPJ4.RJ74	SHEET NO. 4
ROADWAY DESIGN ENGINEER R. THOMPSON	HYDRAULICS ENGINEER K. STANSELL
SEAL 33290 DONWELL A. THOMPSON	SEAL 27876 KARA STANSELL
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
WSP USA 434 FAYETTEVILLE STREET RALEIGH, NC 27601 TEL: 1.919.836.4040 FAX: 1.919.836.4099 LICENSE NO. F-0165	



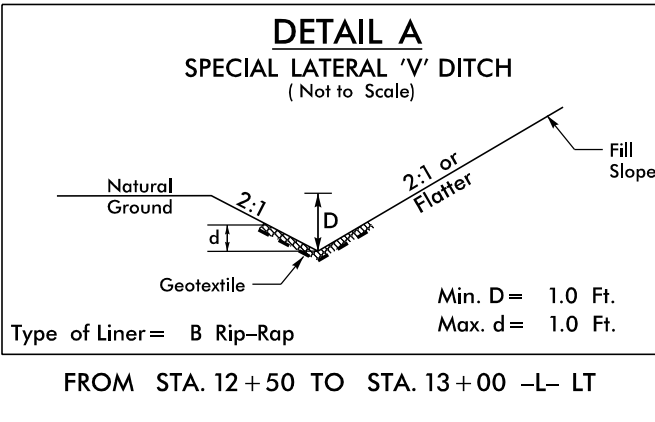
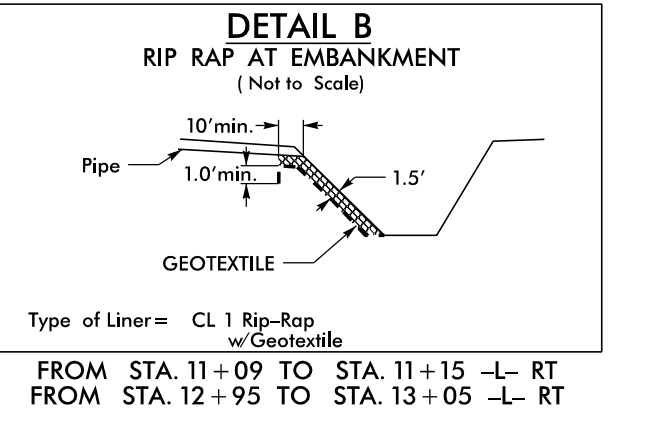
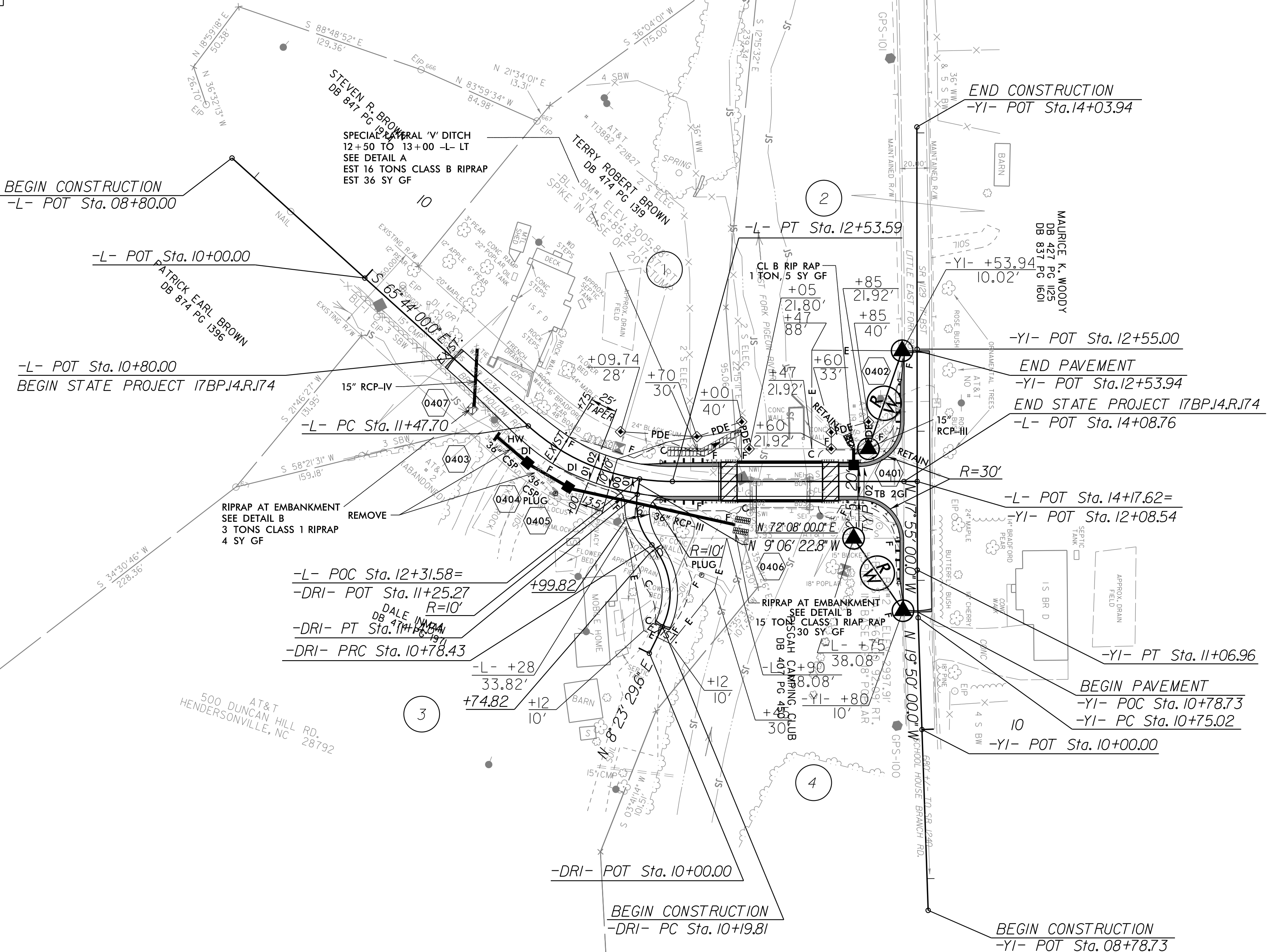
SKETCH SHOWING DIMENSION OF PAVEMENT AND SHOULDERS IN RELATION TO PROPOSED BRIDGE WIDTH

PAVED SHOULDER

CURVE DATA (-L-)	CURVE DATA (-YI-)
PI Sta 12+03.17	PI Sta 10+90.99
$\Delta = 42^{\circ} 08' 00.0''$ (LT)	$\Delta = 1^{\circ} 55' 00.0''$ (RT)
D = 39' 47' 19.4"	D = 6' 00' 00.0"
L = 105.89'	L = 31.94'
T = 55.47'	T = 15.97'
R = 144.00'	R = 954.93'
e = Match Exst.	

CURVE DATA (-DRI-)	
PI Sta 10+53.01	PI Sta 10+97.87
$\Delta = 67^{\circ} 09' 58.8''$ (LT)	$\Delta = 49^{\circ} 40' 06.4''$ (RT)
D = 114' 35' 29.6"	D = 136' 25' 06.7"
L = 58.61'	L = 36.41'
T = 33.20'	T = 19.44'
R = 50.00'	R = 42.00'

NC GRID
NAD 83 NA 2011



REVISIONS

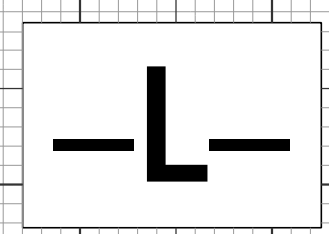
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3/28/2013

SEE SHEET NO. 5 FOR -L- PROFILE
SEE SHEET NO. 5 FOR -YI- PROFILE
SEE SHEET NO. 5 FOR -DRI- PROFILE

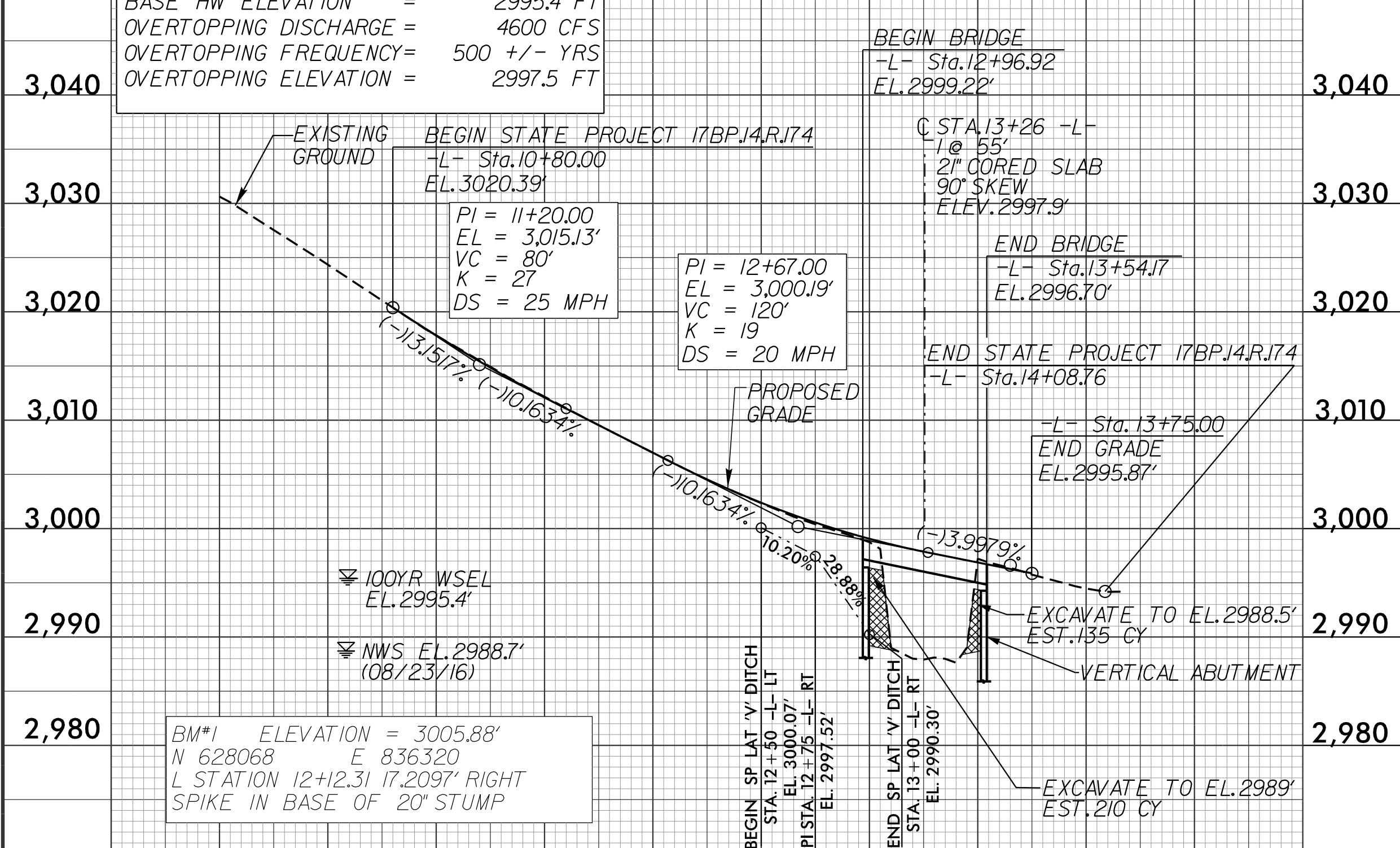
5/28/19

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	2400 CFS
DESIGN FREQUENCY	=	25 YRS
DESIGN HW ELEVATION	=	2994.4 FT
BASE DISCHARGE	=	3400 CFS
BASE FREQUENCY	=	100 YRS
BASE HW ELEVATION	=	2995.4 FT
OVERTOPPING DISCHARGE	=	4600 CFS
OVERTOPPING FREQUENCY	=	500 +/- YRS
OVERTOPPING ELEVATION	=	2997.5 FT



BM*2 ELEVATION = 2997.91'
 N 628036 E 836489
 L STATION 13+68.71 59.4058' RIGHT
 SPIKE IN BASE OF 18" POLAR

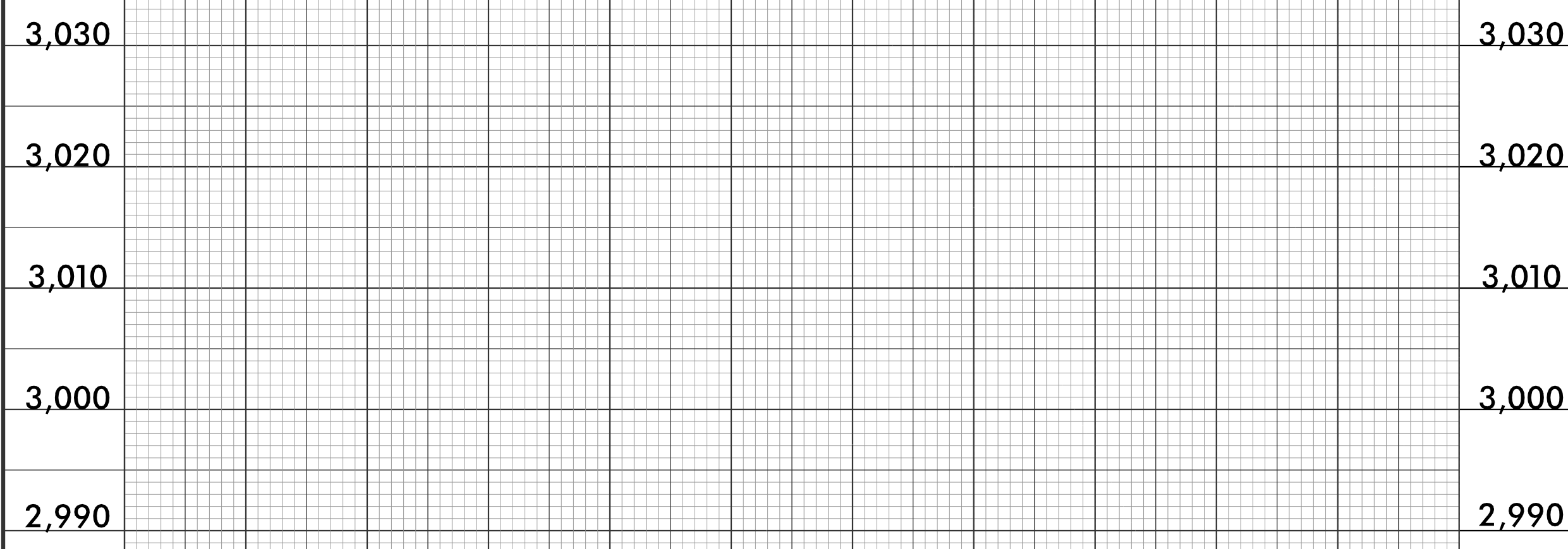
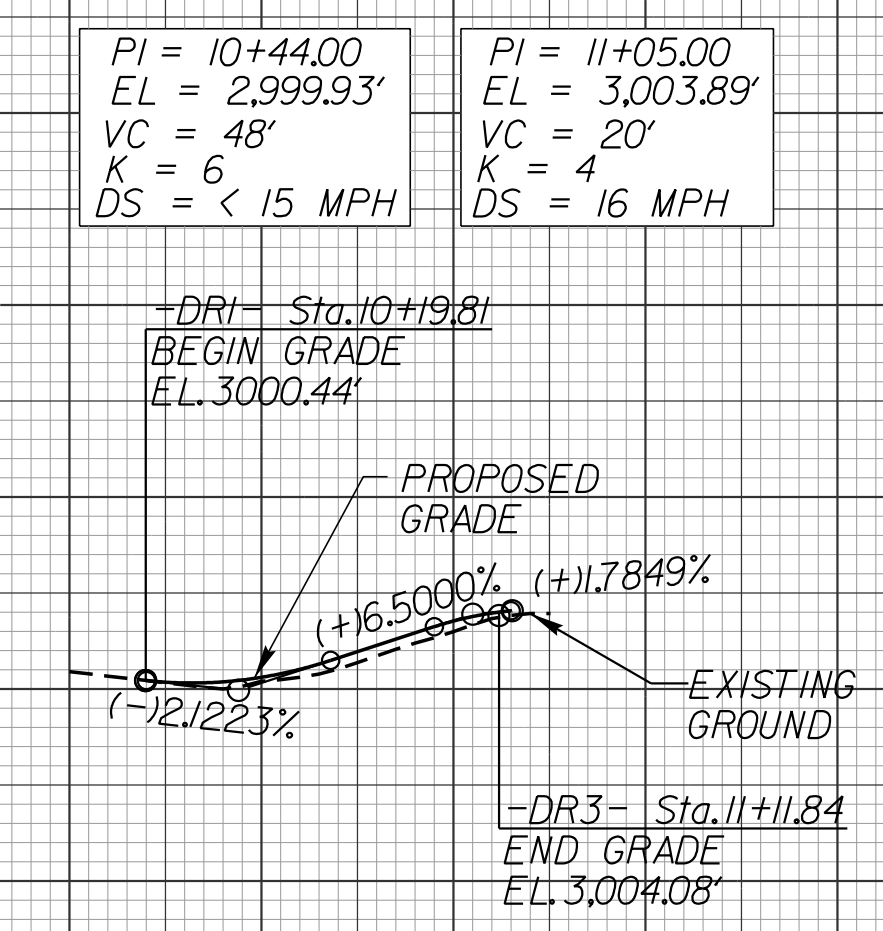


-Y1-

PROJECT REFERENCE NO.	17BPJ4.RJ74	SHEET NO.	5
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
		WSP USA 434 PAVETTEVILLE STREET SUITE 1500 RALEIGH, NC 27601 TEL: 1.919.836.4040 FAX: 1.919.836.4099 LICENSE NO. F-0165	

10 11 12 13 14 15

-DR1-



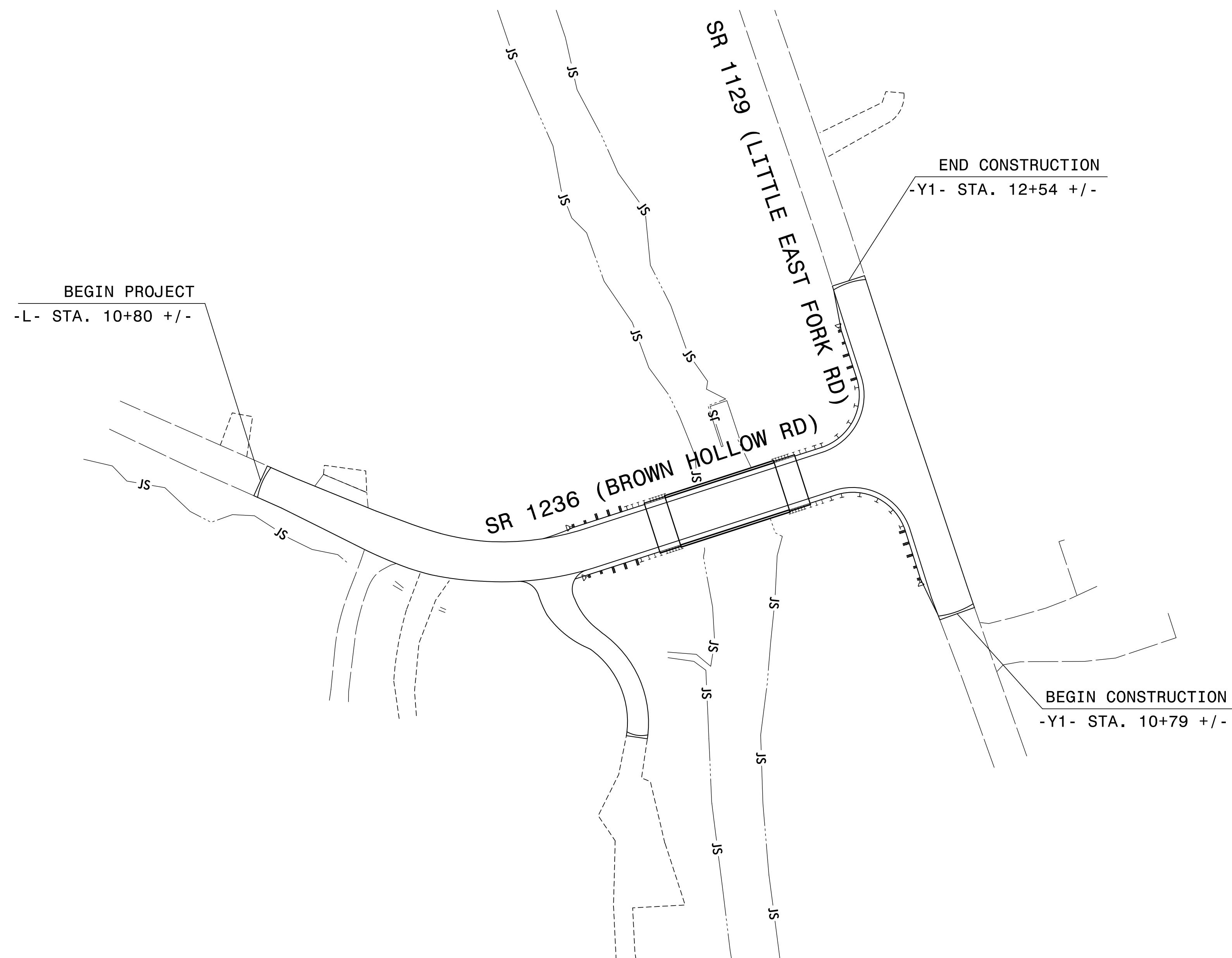
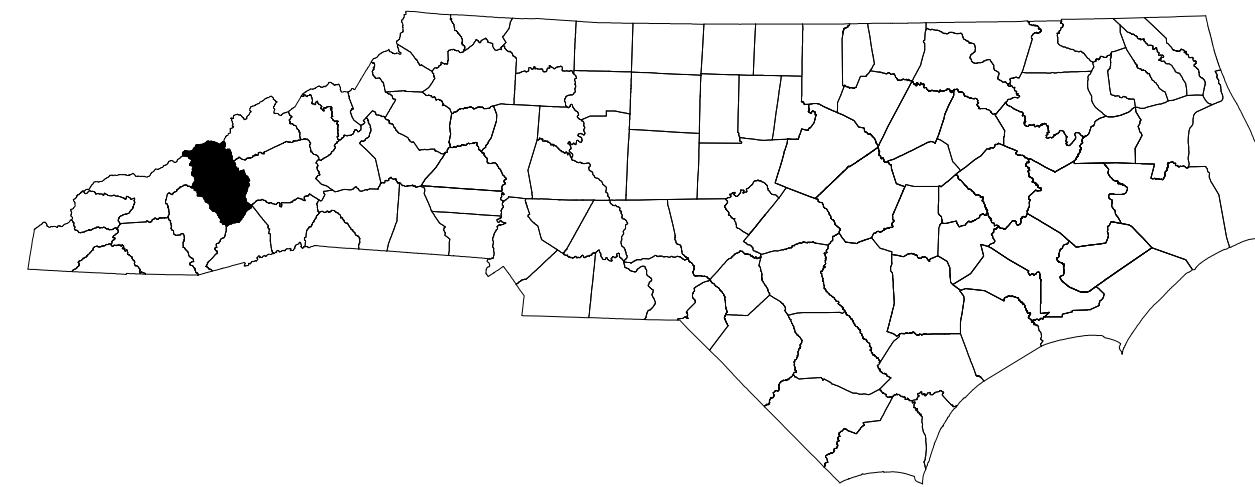
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17BPJ4.RJ74.dwg
3/27/2019

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

HAYWOOD COUNTY



INDEX OF SHEETS


SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-2	ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-2A	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS
TMP-3	GENERAL NOTES AND WRITTEN PHASING
TMP-4	TEMPORARY TRAFFIC CONTROL - PHASE I
TMP-5	TEMPORARY TRAFFIC CONTROL - PHASE II

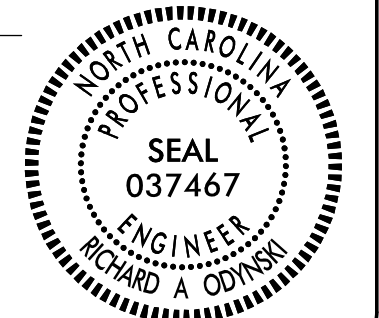
SHEET NO.

TMP-1

PROJECT: 17BP.14.R.174



APPROVED: 
DATE: 3/28/2019



ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

<u>STD. NO.</u>	<u>TITLE</u>
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES - TYPE III
1150.01	FLAGGING DEVICES
1170.01	POSITIVE PROTECTION
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.



TEMPORARY PAVEMENT MARKING

- PAINT (4")
- PA WHITE SOLID EDGE LINE

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

APPROVED DATE: 3/28/2019 	TRANSPORTATION MANAGEMENT PLAN ROADWAY STANDARD DRAWINGS & LEGEND
-------------------------------	--

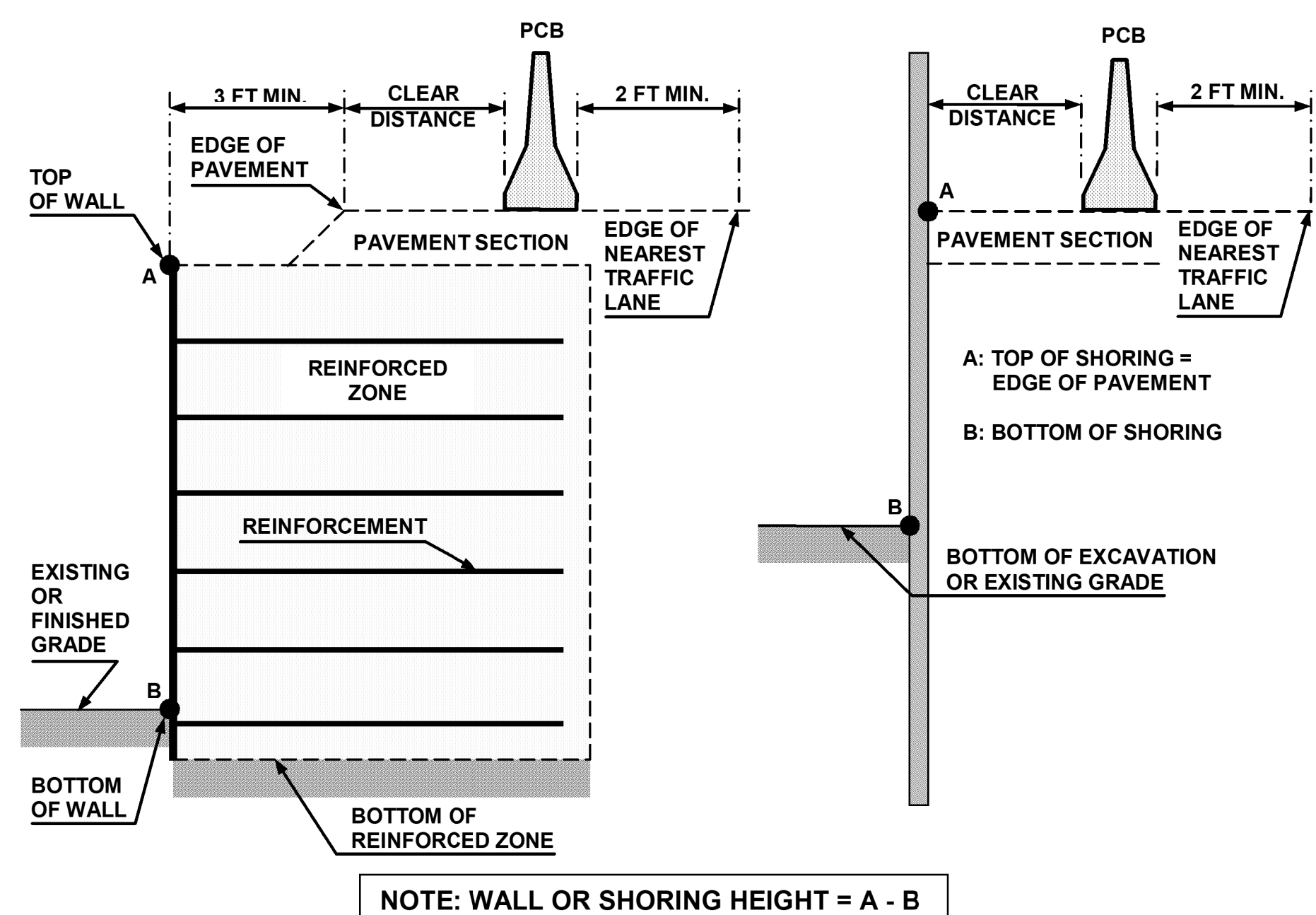


FIGURE A

NOTES

- 1- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.
- 2- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).
- 3- PCB IS REQUIRED IF TEMPORARY SHORING IS LOCATED WITHIN THE CLEAR ZONE IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT UNIT FOR APPLICABLE PAVEMENT DESIGN).
- 4- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.
- 5- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.
- 6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- 7- PCB REQUIREMENTS FOR TEMPORARY WALLS APPLY TO TEMPORARY MECHANICALLY STABILIZED EARTH (MSE) WALLS AND TEMPORARY SOIL NAIL WALLS.
- 8- SET PCB WITH A MINIMUM HORIZONTAL DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A UNLESS OTHERWISE SHOWN IN THE PLANS AND OR AS APPROVED BY THE ENGINEER.
- 9- FOR PCB ABOVE AND BEHIND TEMPORARY WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THESE MINIMUM REQUIRED DISTANCES ARE NOT AVAILABLE, CONTACT THE ENGINEER.
- 10- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS. BARRIER DEFLECTIONS AND RESULTING MINIMUM REQUIRED CLEAR DISTANCES MIGHT VARY SIGNIFICANTLY FOR LARGER HEAVIER VEHICLES, RUNS OF BARRIER LESS THAN 200 FT IN LENGTH AND WET OR DRY PAVEMENT.

MINIMUM REQUIRED CLEAR DISTANCE, inches

Barrier Type	Pavement Type	Offset * ft	Design Speed, mph					
			<30	31-40	41-50	51-60	61-70	71-80
Unanchored PCB	Asphalt	<8	24	26	29	32	36	40
		8-14	26	28	31	35	38	42
		14-20	27	29	34	36	39	43
		20-26	28	31	35	38	40	44
		26-32	29	32	36	39	42	45
		32-38	30	34	38	41	43	46
		38-44	31	34	41	43	45	48
		44-50	31	35	41	43	46	49
		50-56	32	36	42	44	47	50
	>56	32	36	42	45	47	51	
	Concrete	<8	17	18	21	22	25	26
		8-14	19	20	23	25	26	29
		14-20	22	22	24	26	28	31
		20-26	23	24	26	27	30	34
		26-32	24	25	27	28	32	35
		32-38	24	26	27	30	33	36
		38-44	25	26	28	30	34	37
		44-50	26	26	28	32	35	37
50-56		26	26	28	32	35	38	
>56	26	27	29	32	36	38		
Anchored PCB	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

* See Figure Below

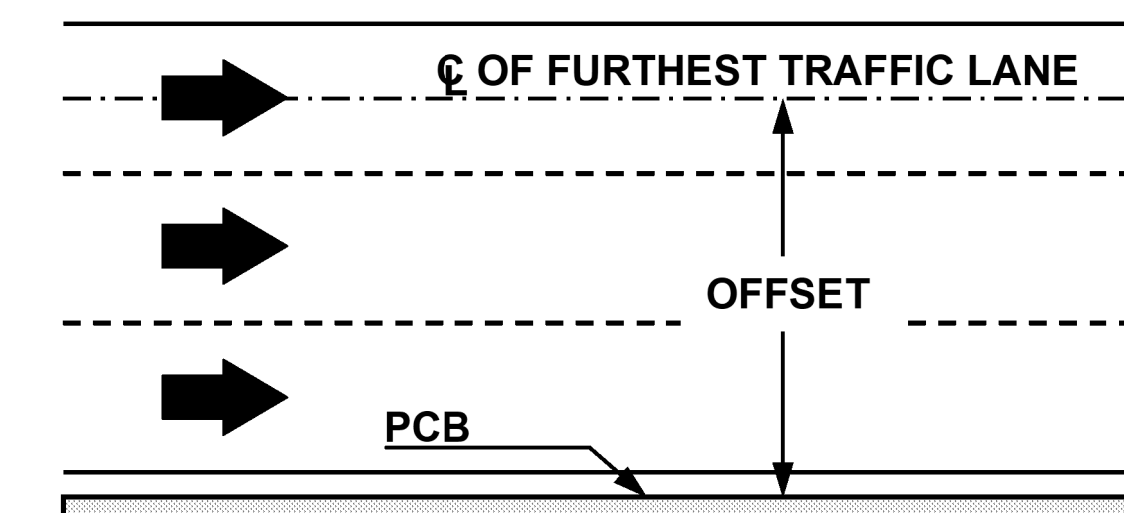


FIGURE B

APPROVED: *Richard A. Odniski* DATE: 12-14-2020

**TRANSPORTATION
MANAGEMENT PLAN
PCB AT SHORING**

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
 - B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
 - C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
 - E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.
 - F) CONTRACTOR SHALL PROVIDE ACCESS TO ALL RESIDENCES AT ALL TIMES. COORDINATE WITH PROPERTY OWNERS DURING CONSTRUCTION ACTIVITIES IMPACTING DRIVEWAYS.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- G) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:
 - BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.
 - BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.
 - BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.
- H) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

- I) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- J) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

- K) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC BARRIER

- L) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE / RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

- M) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS: (SEE ALSO 1101.05)

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

PAVEMENT MARKINGS AND MARKERS

- N) INSTALL FINAL PAVEMENT MARKINGS AND FINAL PAVEMENT MARKERS ON THE FINAL LAYER OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	NONE

- O) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	NONE

- P) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

- Q) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

- R) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

PHASING NOTES

PHASE I

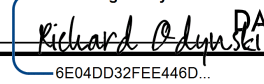
- STEP 1: INSTALL WORK ZONE ADVANCE WARNING SIGNS ON ALL ROADS ACCORDING TO ROADWAY STANDARD DRAWING NO. 1101.01 WHERE WORK WILL BE OCCURRING NO MORE THAN THREE DAYS PRIOR TO BEGINNING CONSTRUCTION.
- STEP 2: USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 14, AS NEEDED, INSTALL TEMPORARY MARKINGS AND TEMPORARY GUARDRAIL AND SHIFT TRAFFIC.
- STEP 3: USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 14 OF 14, CONSTRUCT IMPROVEMENTS UP TO, BUT NOT INCLUDING, THE FINAL LAYER OF SURFACE COURSE, AS SHOWN ON SHEET TMP-4.
- NOTE: AUTOMATED FLAGGING OPERATIONS AND DEVICES WILL NEED TO BE ACTIVE FOR 24 HOURS FOR THE DURATION OF BRIDGE CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DESIGN, MAINTENANCE, AND OPERATION OF ALL EQUIPMENT.

PHASE II

- STEP 1: PRIOR TO SHIFTING TRAFFIC, CONSTRUCT -DR1- USING FLAGGERS AND ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 14.
- STEP 2: USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 14, AS NEEDED, INSTALL TEMPORARY MARKINGS AND CONCRETE BARRIER AND SHIFT TRAFFIC.
- STEP 3: USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 14 OF 14, CONSTRUCT BRIDGE IMPROVEMENTS AS SHOWN ON SHEET TMP-5.
- STEP 4: ONCE THE BRIDGE CONSTRUCTION IS COMPLETE, USE ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 14, TO REMOVE CONCRETE BARRIER AND INSTALL FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS AND SHIFT TRAFFIC TO THE FINAL TRAFFIC PATTERN.
- STEP 5: REMOVE LANE CLOSURE DEVICES AND SIGNS AFTER CONSTRUCTION IS COMPLETE.

LOCAL NOTES

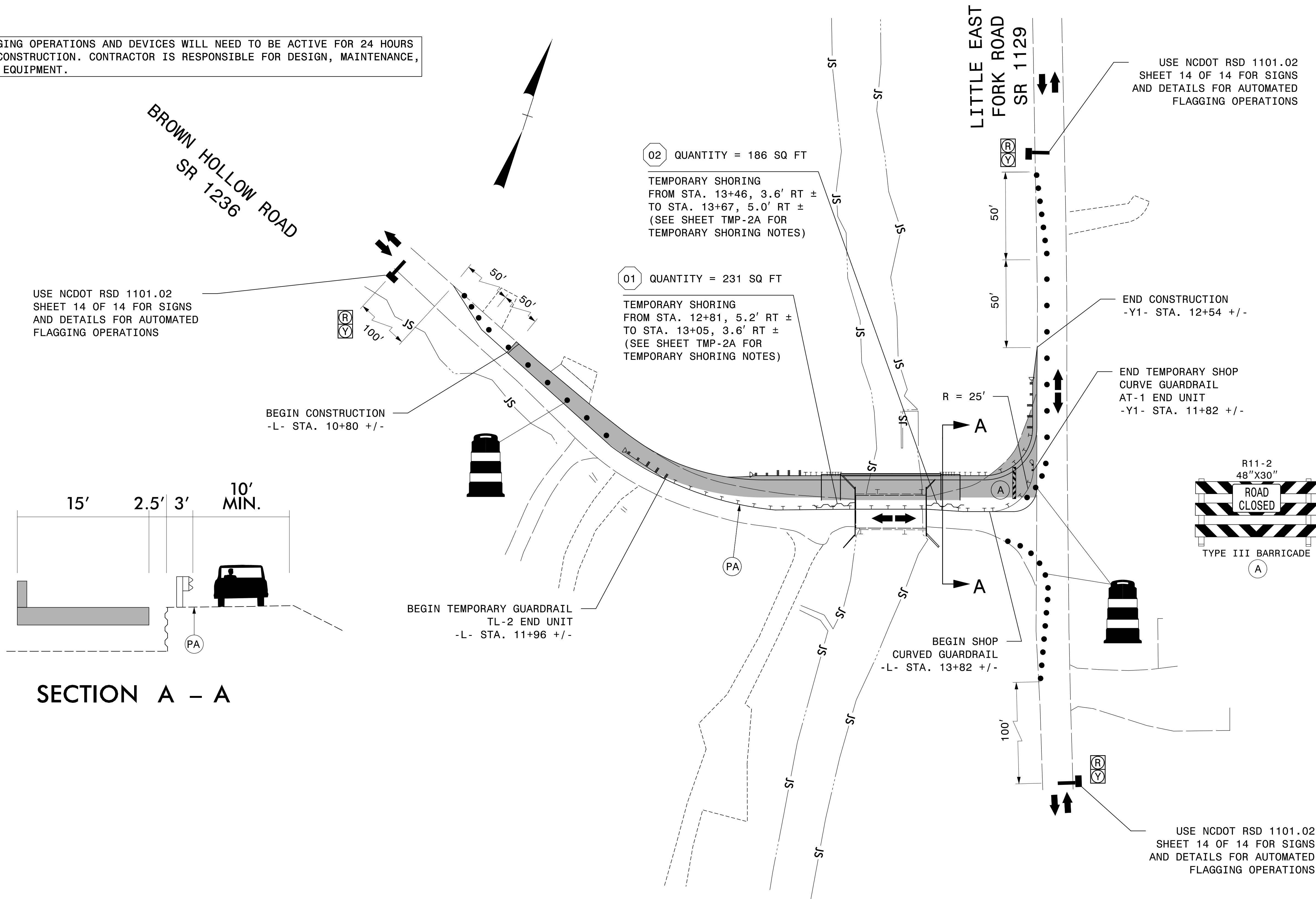
- 1) CONTRACTOR SHALL NOTIFY HAYWOOD COUNTY SCHOOLS AND EMERGENCY SERVICES PRIOR TO CONSTRUCTION AND ALERT THEM OF TRAFFIC PATTERN ALTERATIONS.

APPROVED:  DATE: 02-02-2021



TRANSPORTATION
MANAGEMENT PLAN
GENERAL NOTES AND
WRITTEN PHASING

NOTE: AUTOMATED FLAGGING OPERATIONS AND DEVICES WILL NEED TO BE ACTIVE FOR 24 HOURS FOR THE DURATION OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DESIGN, MAINTENANCE, AND OPERATION OF ALL EQUIPMENT.

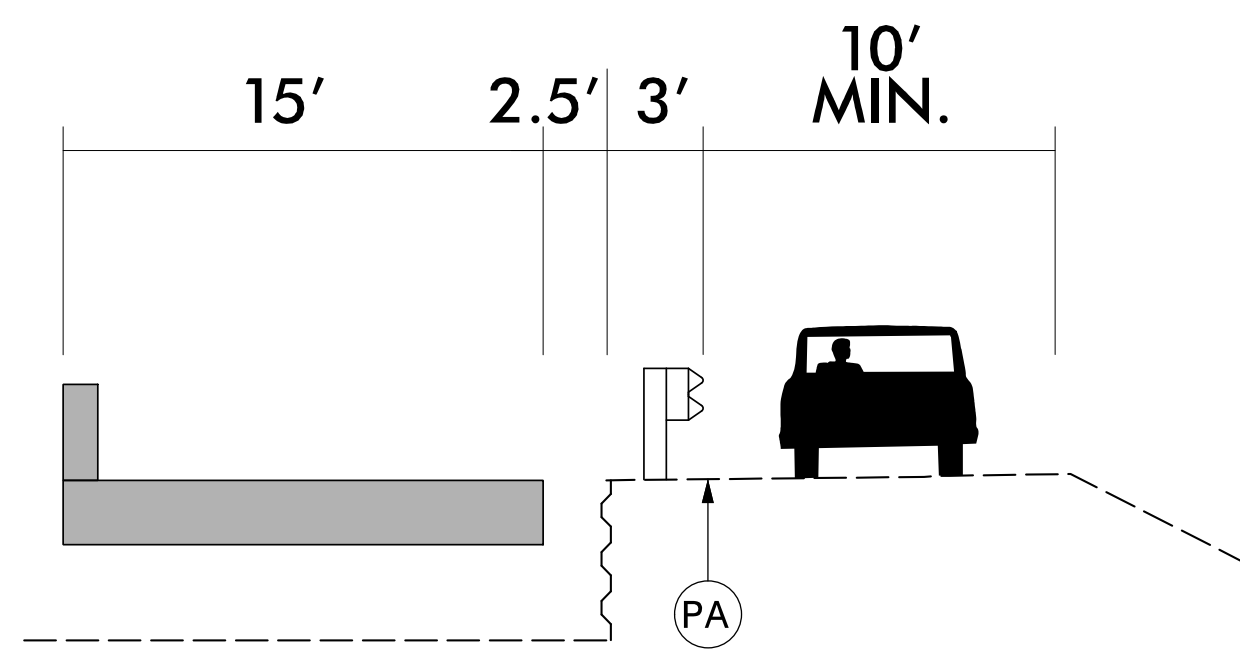


USE NCDOT RSD 1101.02 SHEET 14 OF 14 FOR SIGNS AND DETAILS FOR AUTOMATED FLAGGING OPERATIONS

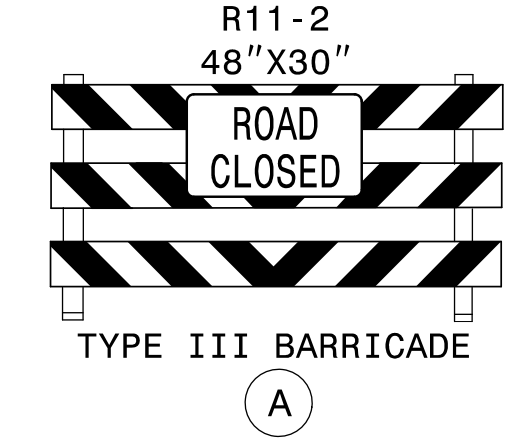
02 QUANTITY = 186 SQ FT
 TEMPORARY SHORING
 FROM STA. 13+46, 3.6' RT ±
 TO STA. 13+67, 5.0' RT ±
 (SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)

01 QUANTITY = 231 SQ FT
 TEMPORARY SHORING
 FROM STA. 12+81, 5.2' RT ±
 TO STA. 13+05, 3.6' RT ±
 (SEE SHEET TMP-2A FOR TEMPORARY SHORING NOTES)

USE NCDOT RSD 1101.02 SHEET 14 OF 14 FOR SIGNS AND DETAILS FOR AUTOMATED FLAGGING OPERATIONS



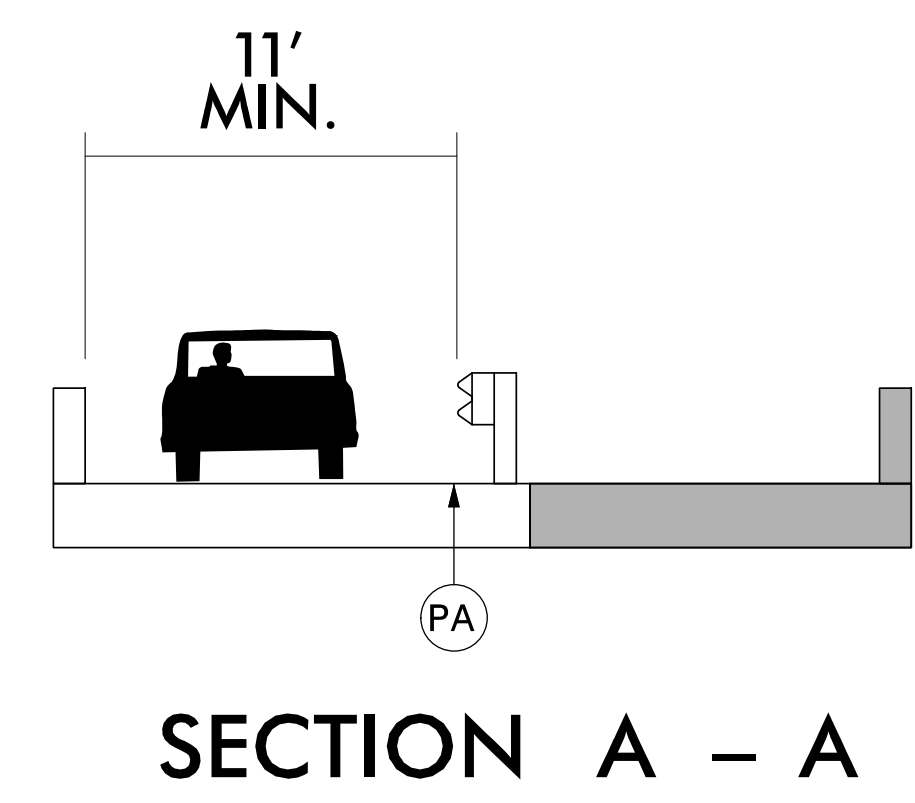
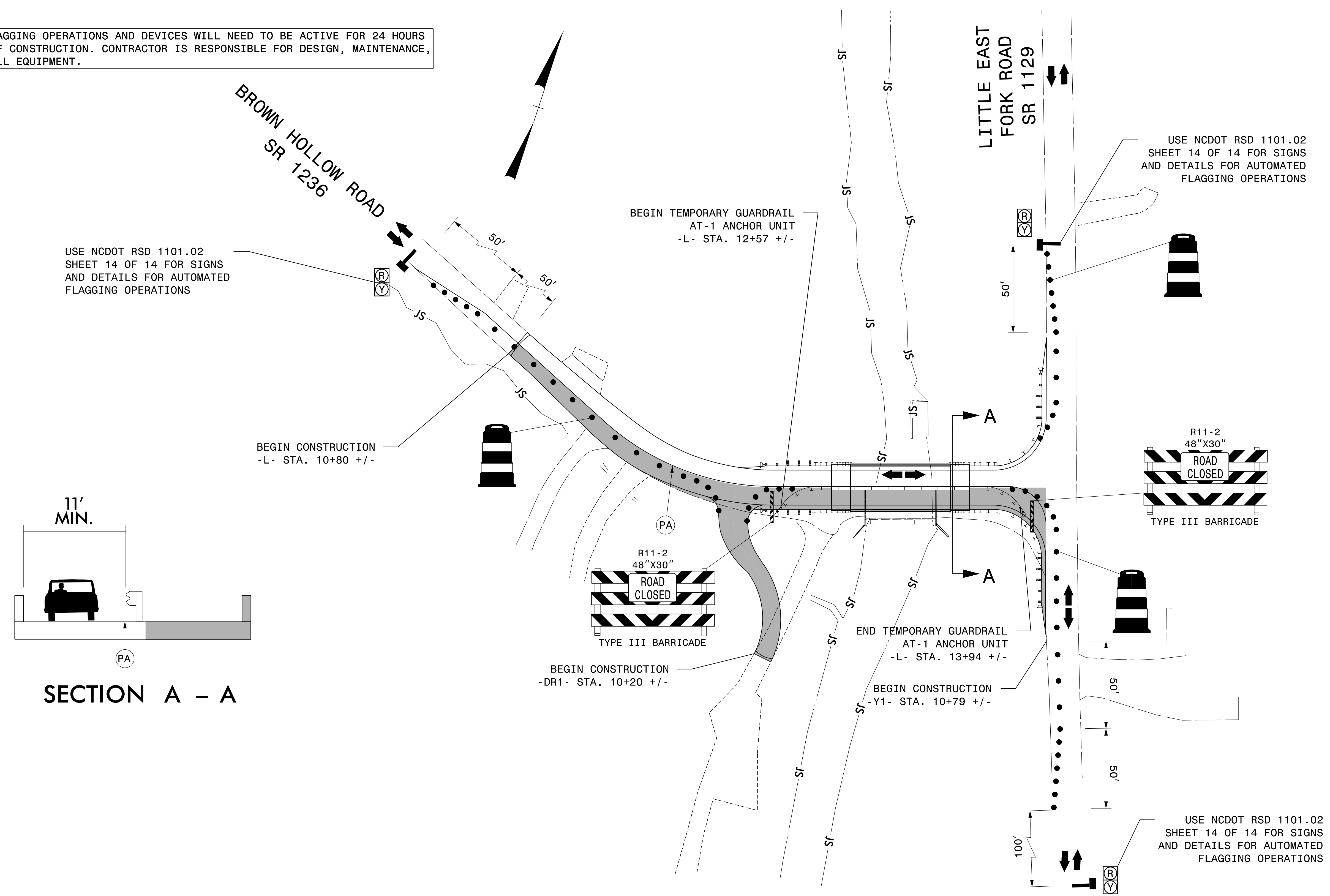
SECTION A - A



USE NCDOT RSD 1101.02 SHEET 14 OF 14 FOR SIGNS AND DETAILS FOR AUTOMATED FLAGGING OPERATIONS

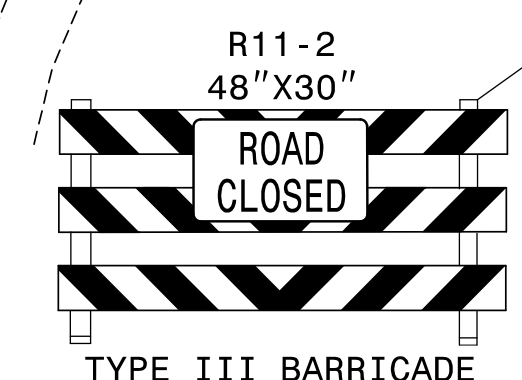
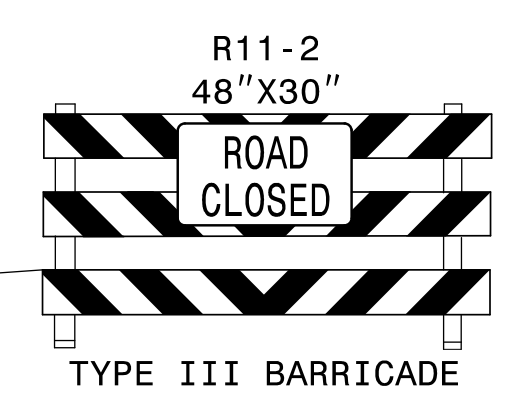
APPROVED: <i>Richard A. O'Donnell</i> DATE: 02-02-2024 	TRANSPORTATION MANAGEMENT PLAN TEMPORARY TRAFFIC CONTROL PHASE I
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NOTE: AUTOMATED FLAGGING OPERATIONS AND DEVICES WILL NEED TO BE ACTIVE FOR 24 HOURS FOR THE DURATION OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DESIGN, MAINTENANCE, AND OPERATION OF ALL EQUIPMENT.



USE NCDOT RSD 1101.02 SHEET 14 OF 14 FOR SIGNS AND DETAILS FOR AUTOMATED FLAGGING OPERATIONS

USE NCDOT RSD 1101.02 SHEET 14 OF 14 FOR SIGNS AND DETAILS FOR AUTOMATED FLAGGING OPERATIONS



USE NCDOT RSD 1101.02 SHEET 14 OF 14 FOR SIGNS AND DETAILS FOR AUTOMATED FLAGGING OPERATIONS

APPROVED: <i>Richard A. Odynski</i> DATE: 3/28/2019	<p>TRANSPORTATION MANAGEMENT PLAN TEMPORARY TRAFFIC CONTROL PHASE II</p>

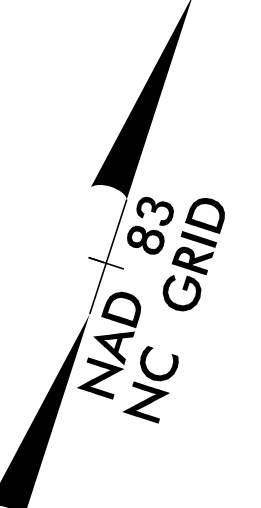
See Sheet 1-A For Index of Sheets (Not Included)
See Sheet 1-B For Symbology Sheet

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

HAYWOOD COUNTY

**LOCATION: REPLACEMENT OF BRIDGE No. 401
OVER LITTLE EAST FORK PIGEON RIVER
ON SR 1236 (BROWN HOLLOW RD)**

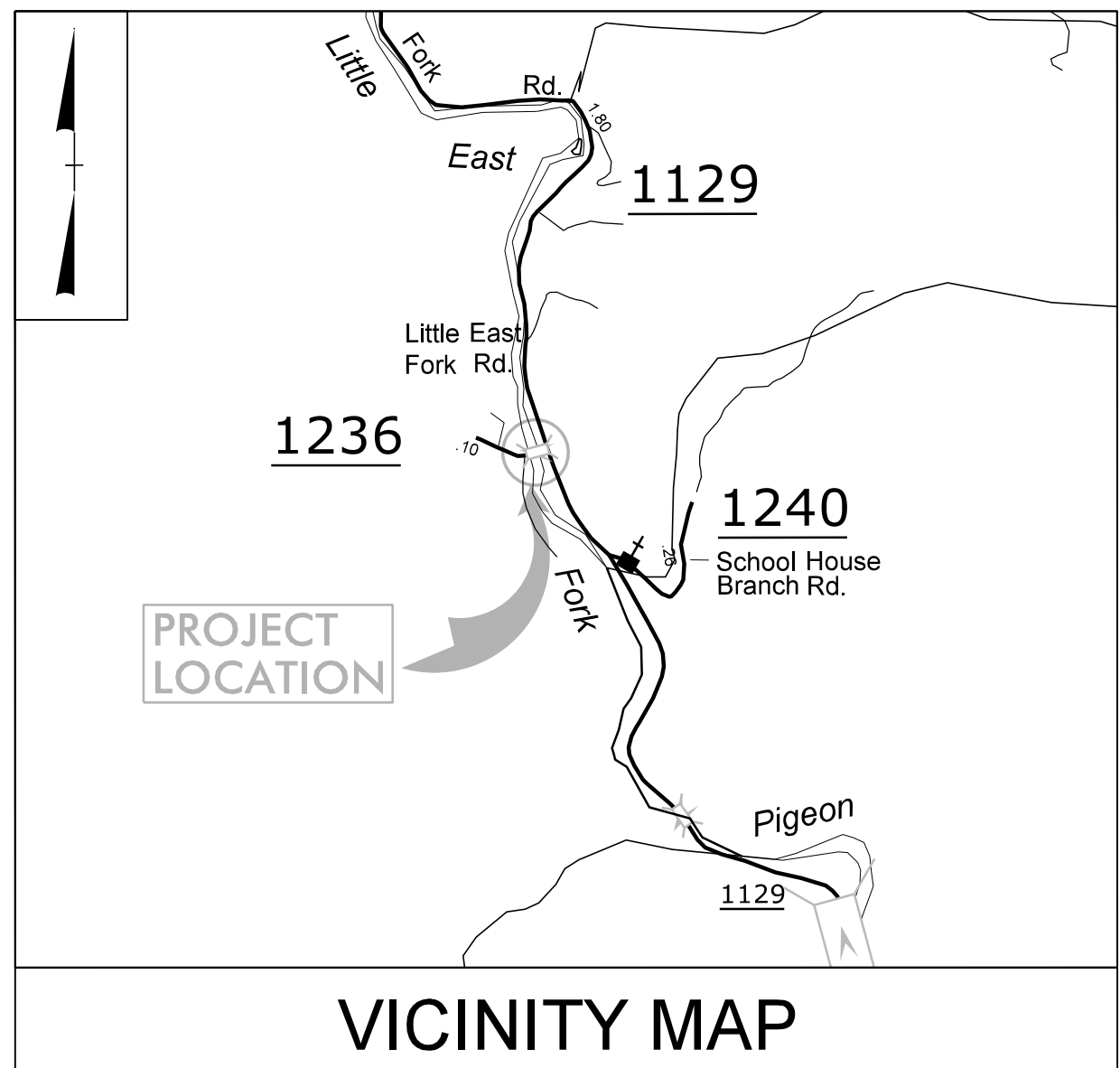
**TYPE OF WORK: GRADING, DRAINAGE, WIDENING, CORED SLAB
BRIDGE AND PAVEMENT MARKINGS**



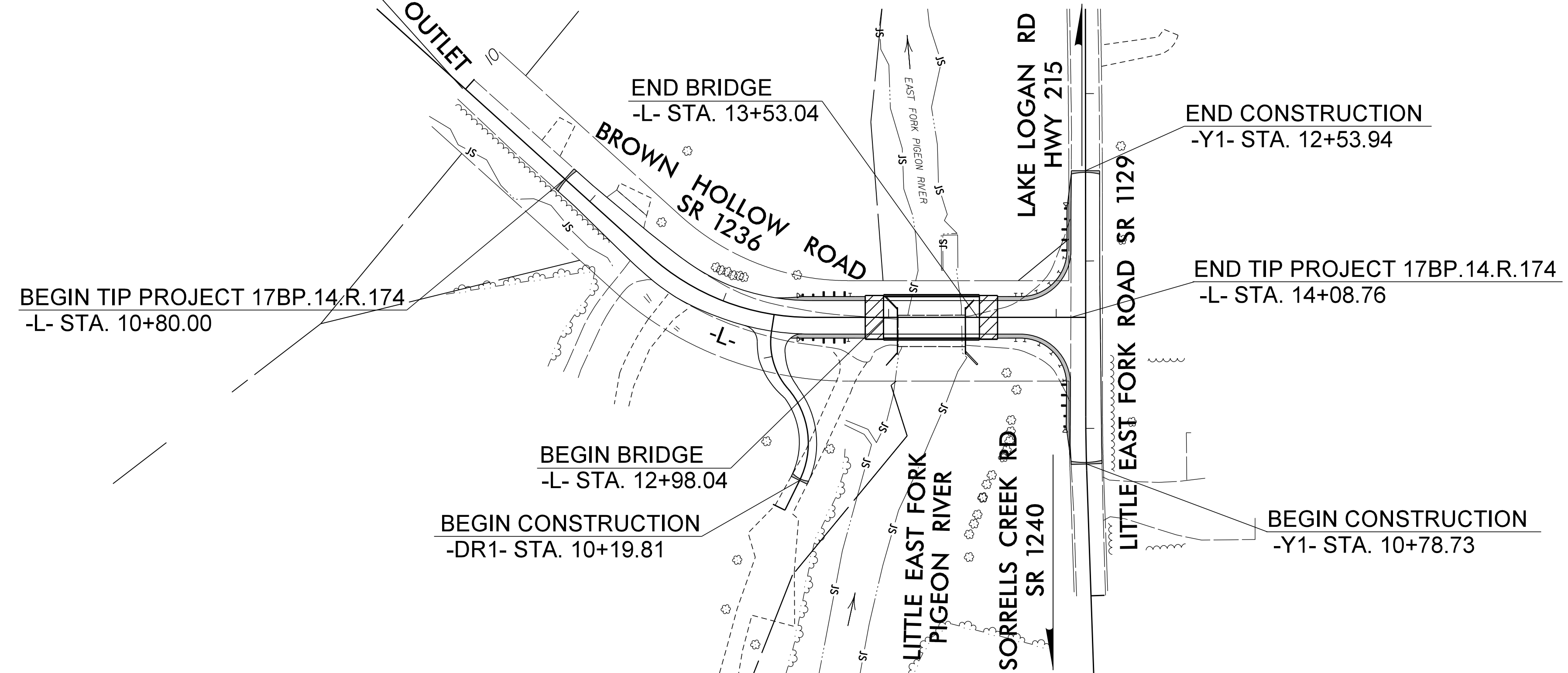
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.174	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSB
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	TSF
1606.01	Special Sediment Control Fence	SSCF
1622.01	Temporary Berms and Slope Drains	TBSD
1630.02	Silt Basin Type B	SB
1633.01	Temporary Rock Silt Check Type-A	TRSCA
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	TRSCA-PAM
1633.02	Temporary Rock Silt Check Type-B	TRSCB
	Wattle / Coir Fiber Wattle	W
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	W-PAM
1634.01	Temporary Rock Sediment Dam Type-A	TRSDA
1634.02	Temporary Rock Sediment Dam Type-B	TRSDB
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RPIST-A
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RPIST-B
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SSB
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	SKB
	Tiered Skimmer Basin	TSKB
	Infiltration Basin	IB



VICINITY MAP



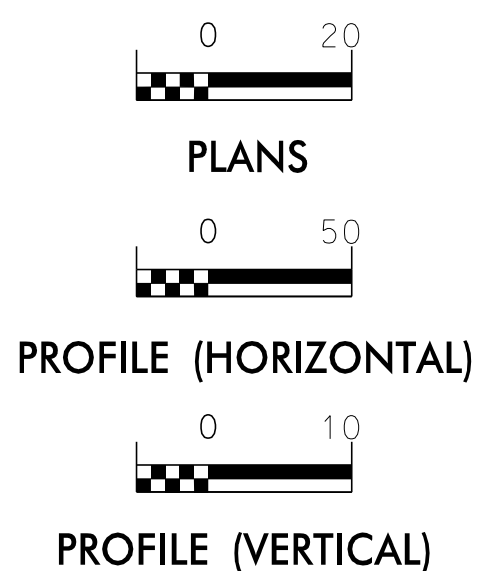
THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT
Refer To E. C. Special Provisions for Special Considerations.


CONTRACT: DN00493 WBS: 17BP.14.R.174

GRAPHIC SCALE



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 1, 2018 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER RESOURCES.

Prepared in the Office of:



WSP USA
454 BAYETTEVILLE STREET
SUITE 1500
RALLEIGH, NC 27601
TEL: 919.836.4040
FAX: 919.836.4099
LICENSE NO. F-0165

Designed by:

RANA STANSELL, PE 3597
NAME LEVEL III CERTIFICATION NO.

Reviewed in the Office of:

ROADSIDE ENVIRONMENTAL UNIT
693 Mountain Road
Hendersonville, NC 28791

2018 STANDARD SPECIFICATIONS

Reviewed by:

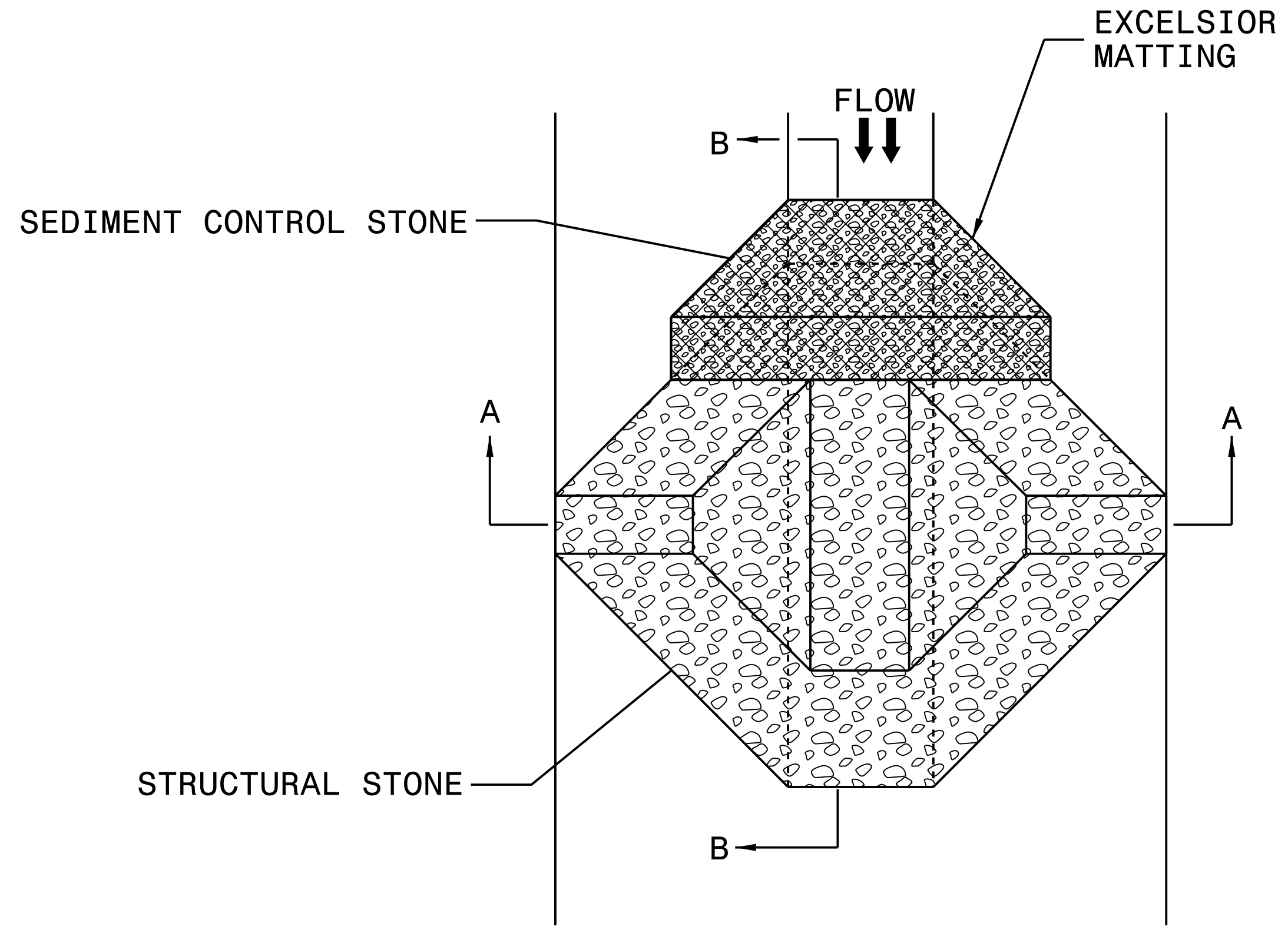
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

PROJECT REFERENCE NO. 17BPJ4.RJ74	SHEET NO. EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



PLAN

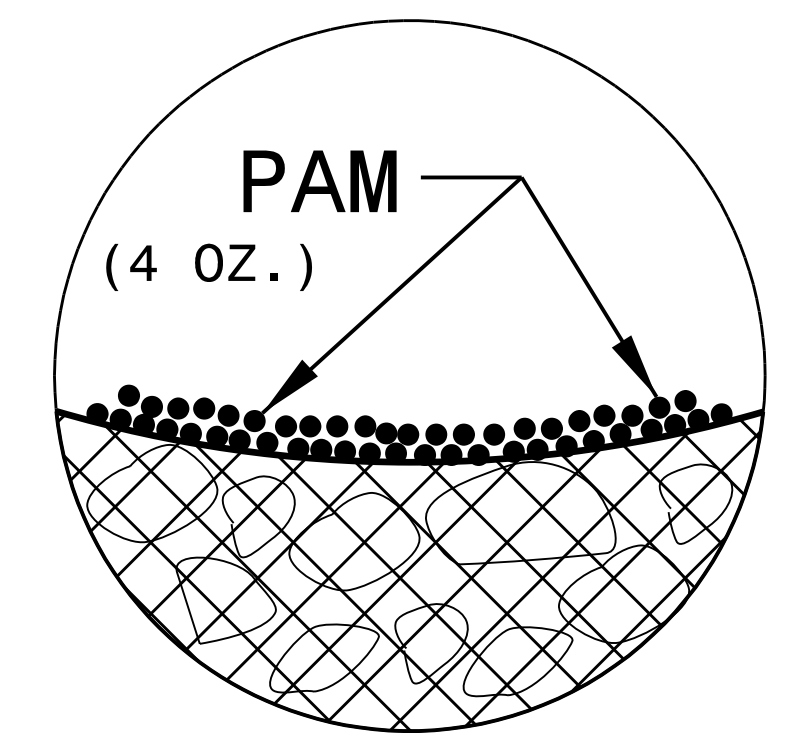
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

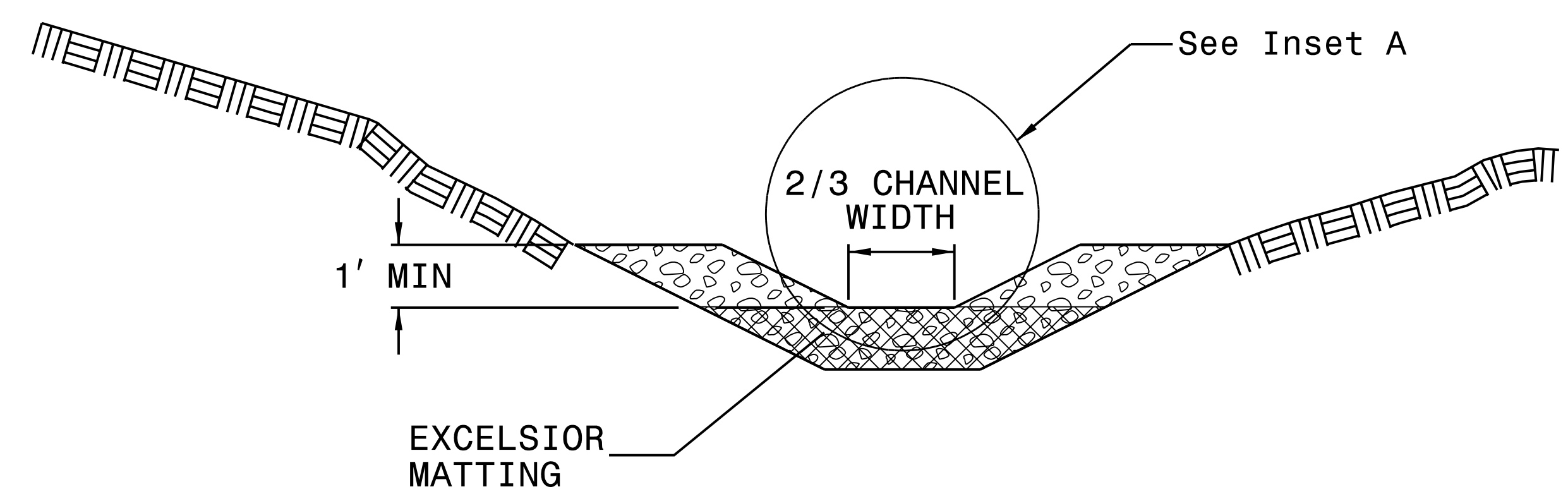
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

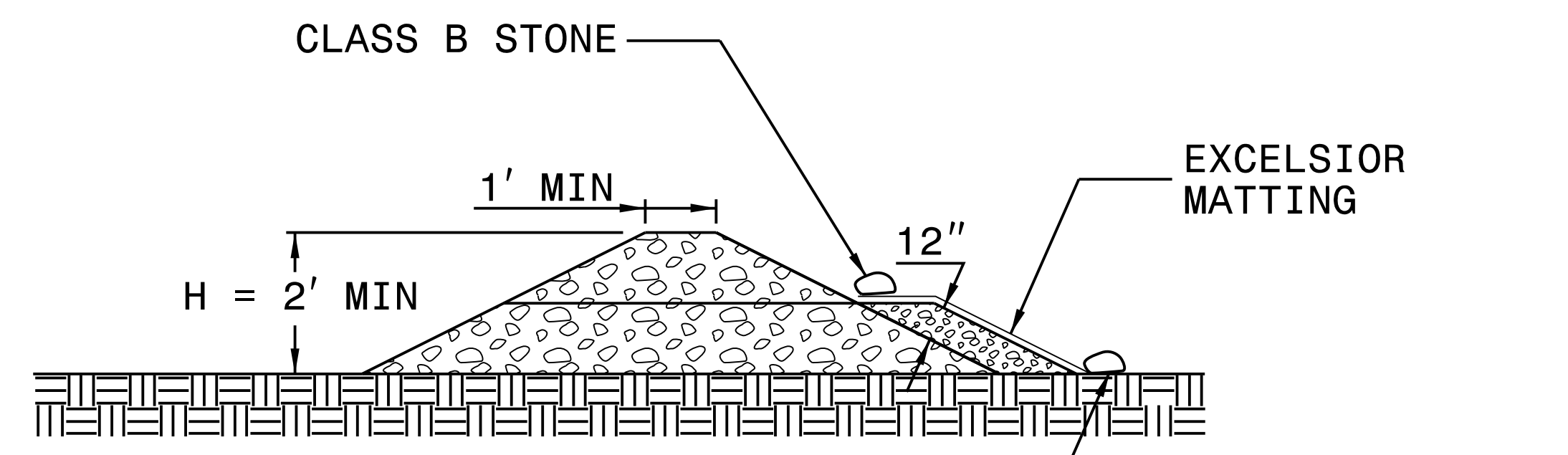
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

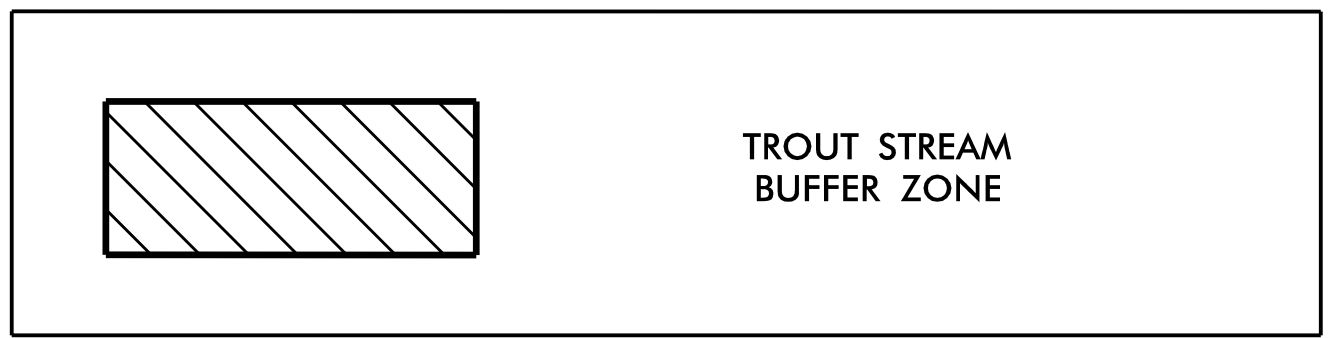
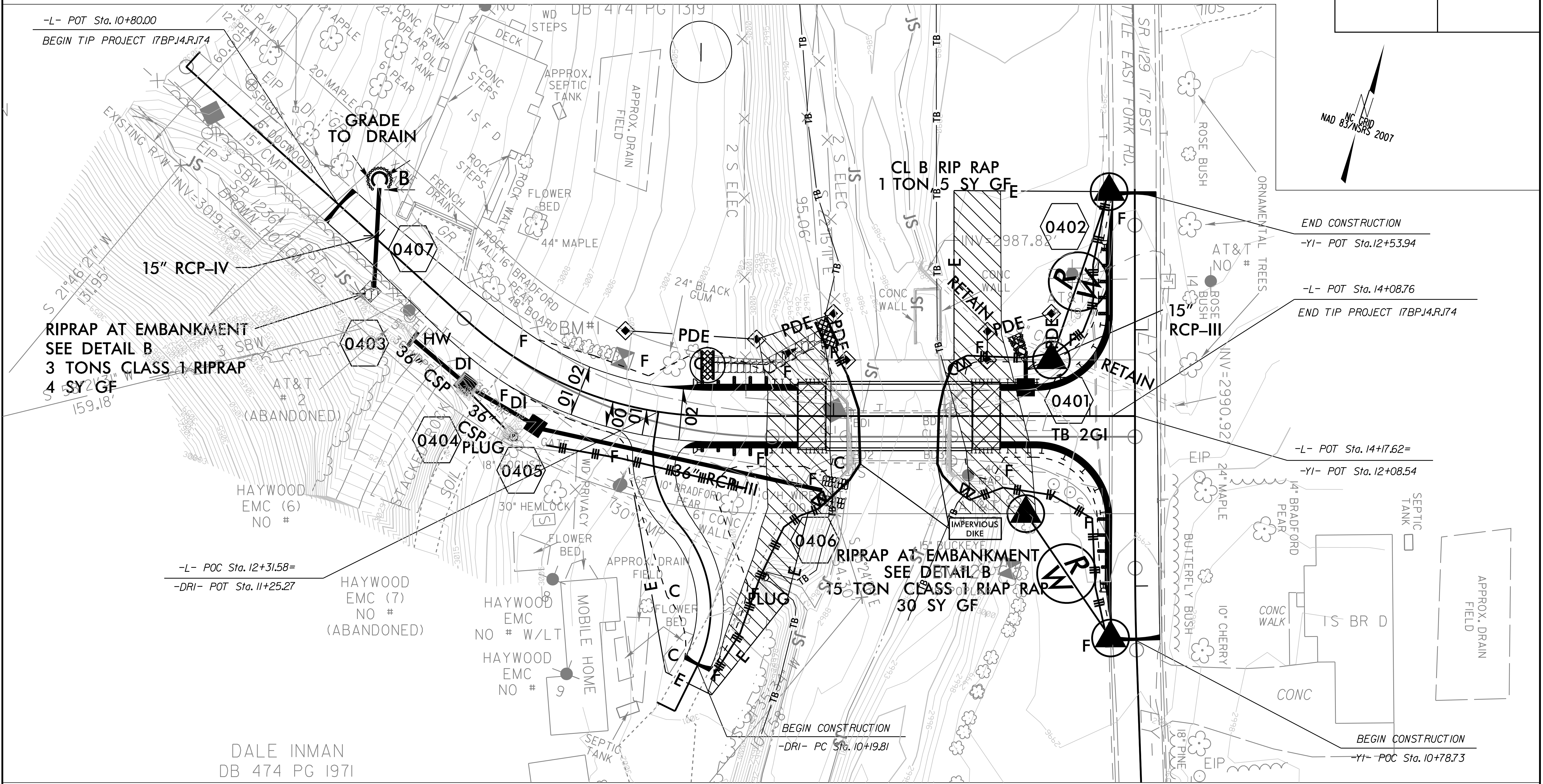
PROJECT REFERENCE NO. <i>17BPJ4RJ74</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

EROSION CONTROL PLAN

PROJECT REFERENCE NO. 17BPJ4.RJ74	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NOTE:
PLACE TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

BRIDGE REMOVAL AND BRIDGE CONSTRUCTION SHALL BE PER REQUIREMENTS IN THE NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL

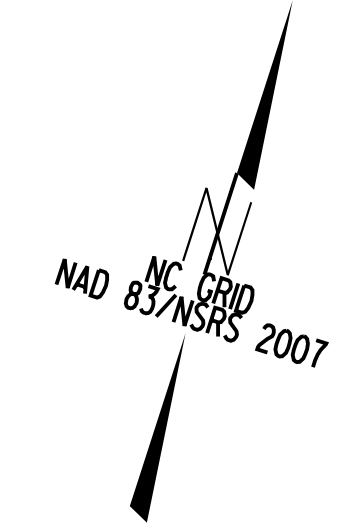
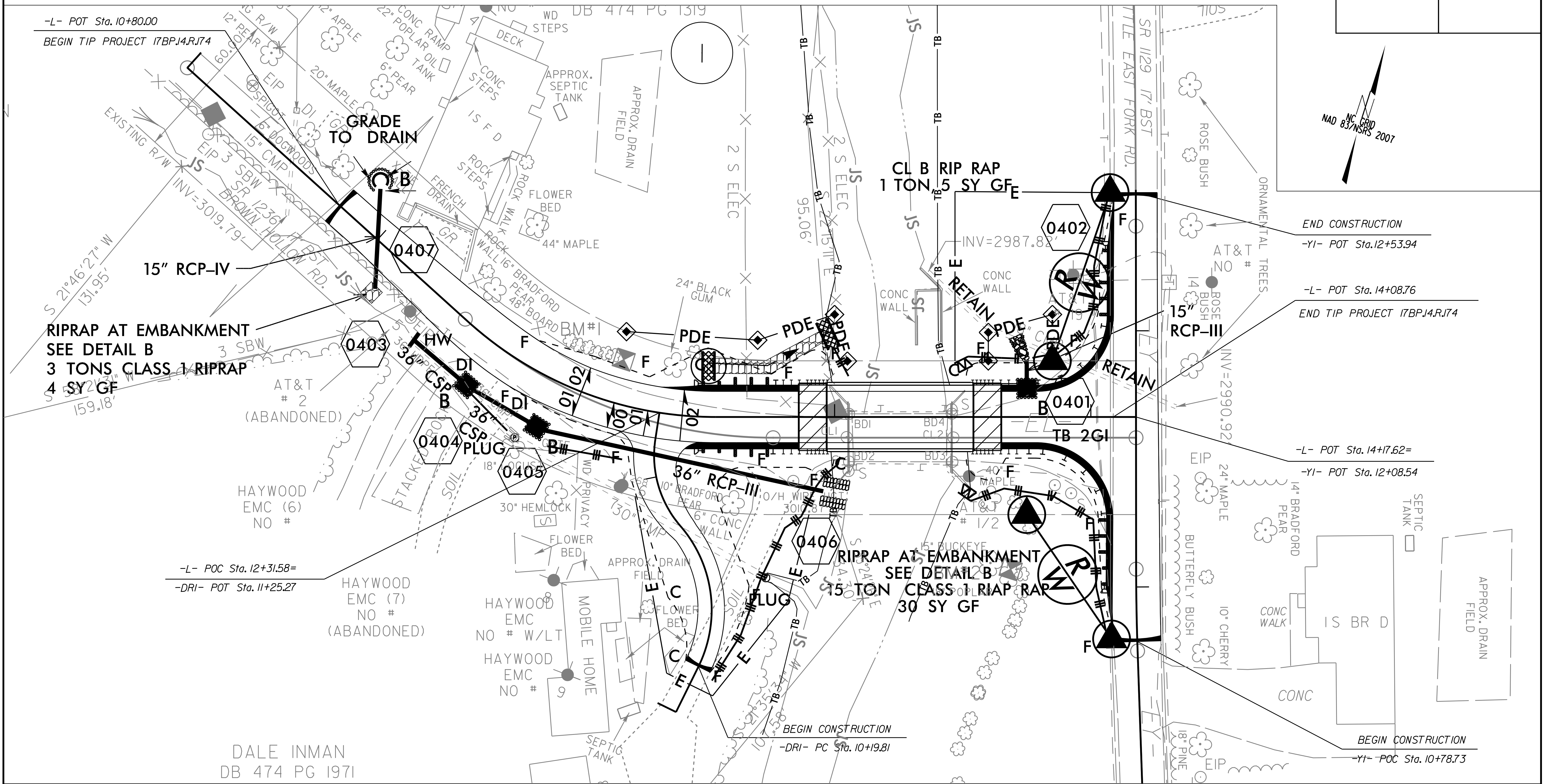
DEWATER AREA BEHIND IMPERVIOUS DIKS INTO SPECIAL STILLING BASIN(S).

CONTRACTOR SHALL INSTALL AN ONSITE CONCRETE WASHOUT STRUCTURE PER THE NCDOT DETAIL AND SPECIAL PROVISIONS. ACTUAL LOCATION OF THE STRUCTURE SHALL BE DETERMINED IN THE FIELD. CONCRETE WASHOUT STRUCTURE SHALL BE MAINTAINED BY THE CONTRACTOR. ALL CONCRETE TRUCKS SHALL USE THE CONCRETE WASHOUT STRUCTURE. NO WASHOUT OF CONCRETE TRUCKS SHALL BE ALLOWED EXCEPT IN THE CONCRETE WASHOUT STRUCTURE.

DALE INMAN
DB 474 PG 1971

PROJECT REFERENCE NO. 17BPJ4.RJ74	SHEET NO. EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL PLAN



INSTALL CLASS B RIPRAP IN THE PROPOSED DITCH LINE.
STA 12+50 TO 13+00 -L- LT

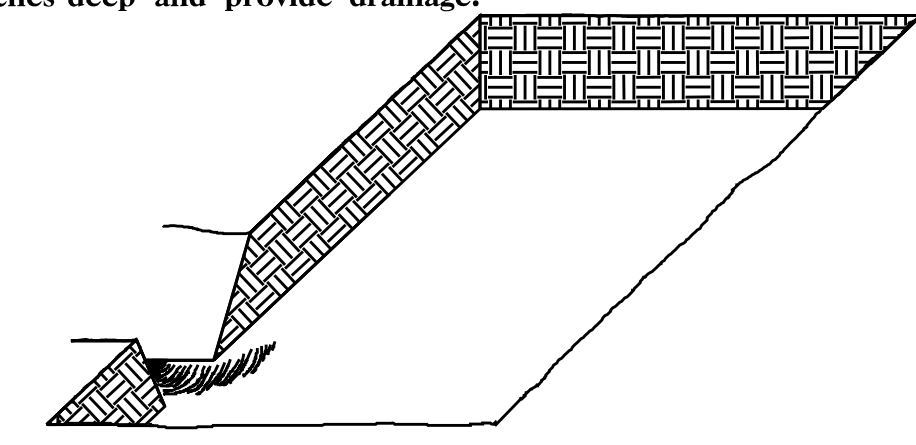
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.174	RF-1	
STATE PROJ.NO.	F.A.PROJ.NO.	DESCRIPTION	

PLANTING DETAILS

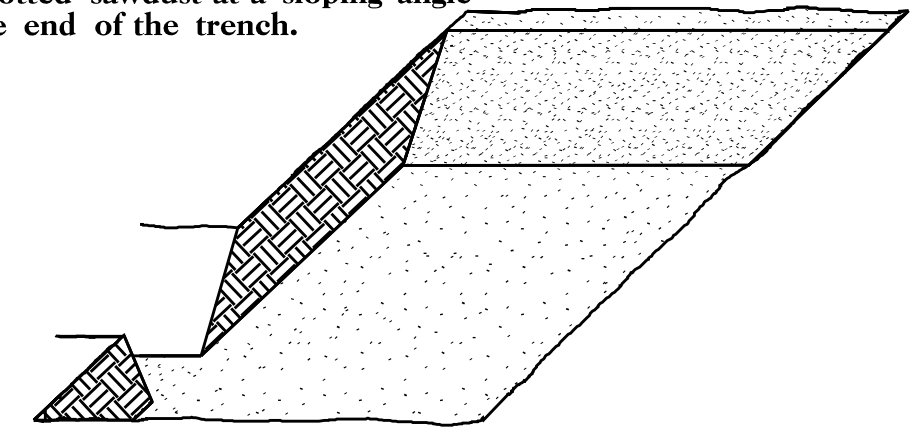
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

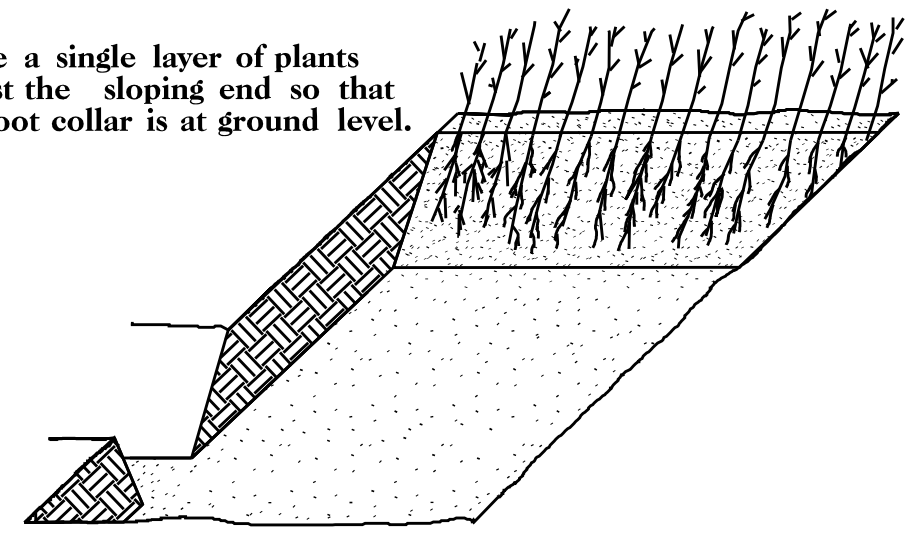
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



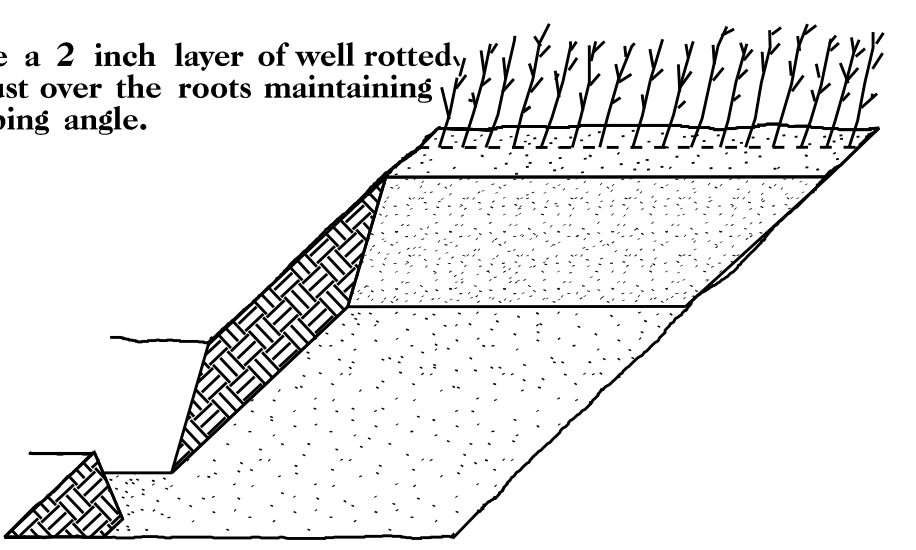
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

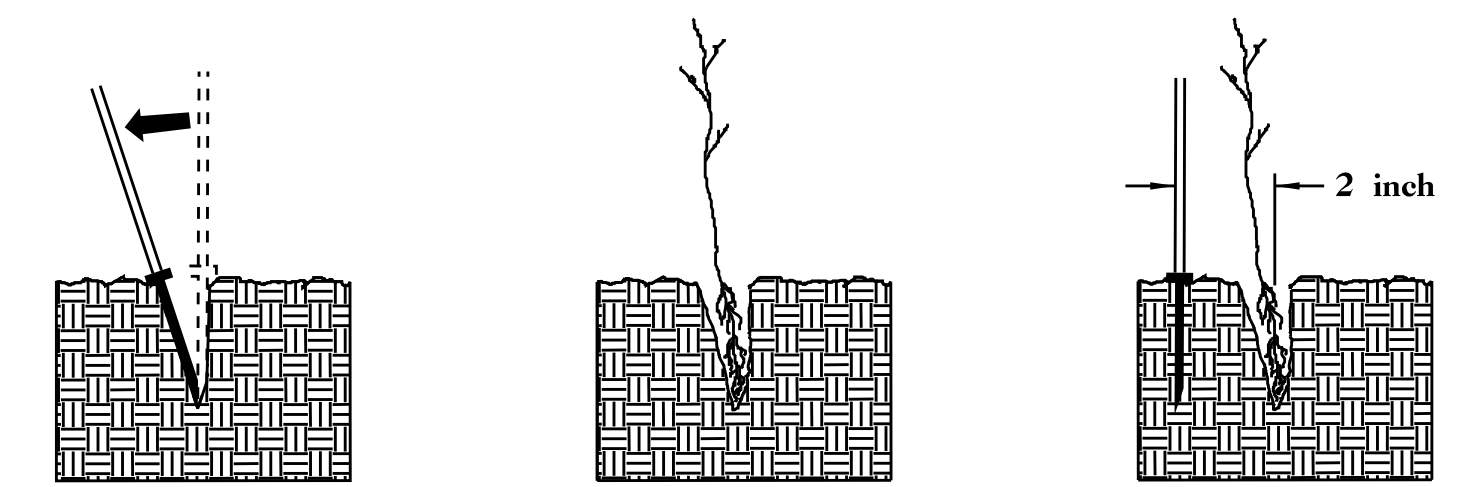


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

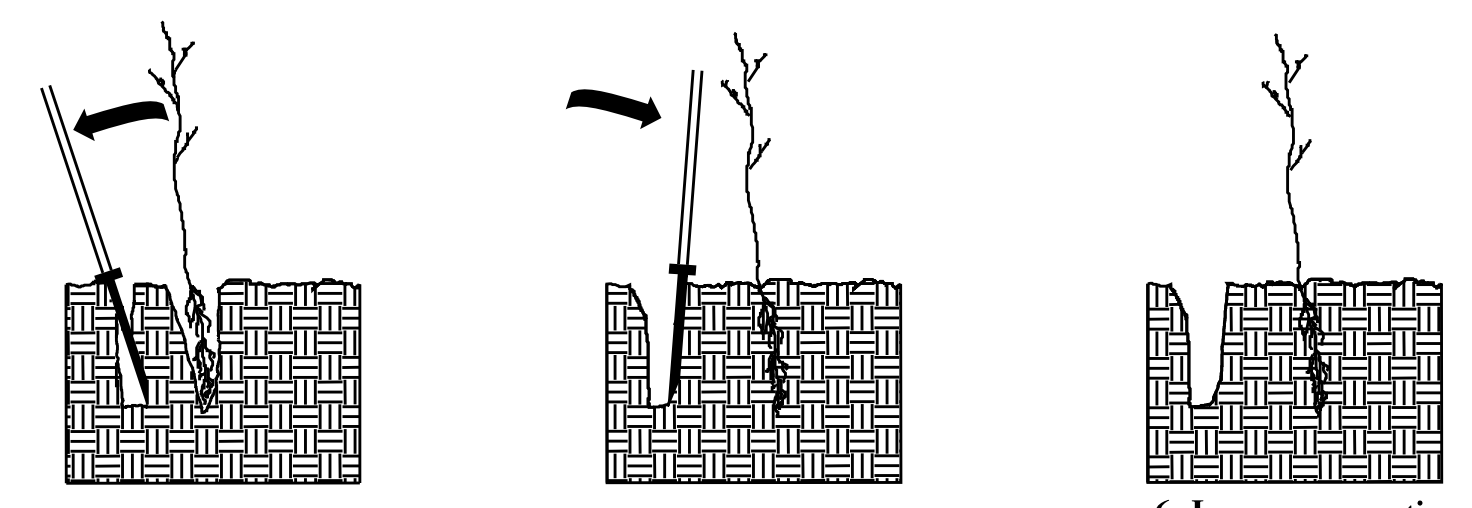


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



1. Insert planting bar as shown and pull handle toward planter.
2. Remove planting bar and place seedling at correct depth.
3. Insert planting bar 2 inches toward planter from seedling.



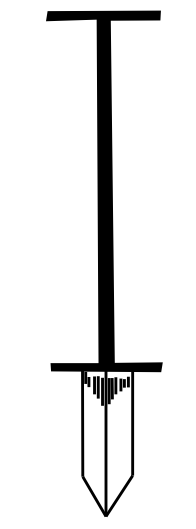
4. Pull handle of bar toward planter, firming soil at bottom.
5. Push handle forward firming soil at top.
6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.



KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

- TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION			
MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:			
25%	LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in - 18 in BR
25%	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in - 18 in BR
25%	FRAXINUS PENNSYLVANICA	GREEN ASH	12 in - 18 in BR
25%	BETULA NIGRA	RIVER BIRCH	12 in - 18 in BR

REFORESTATION DETAIL SHEET

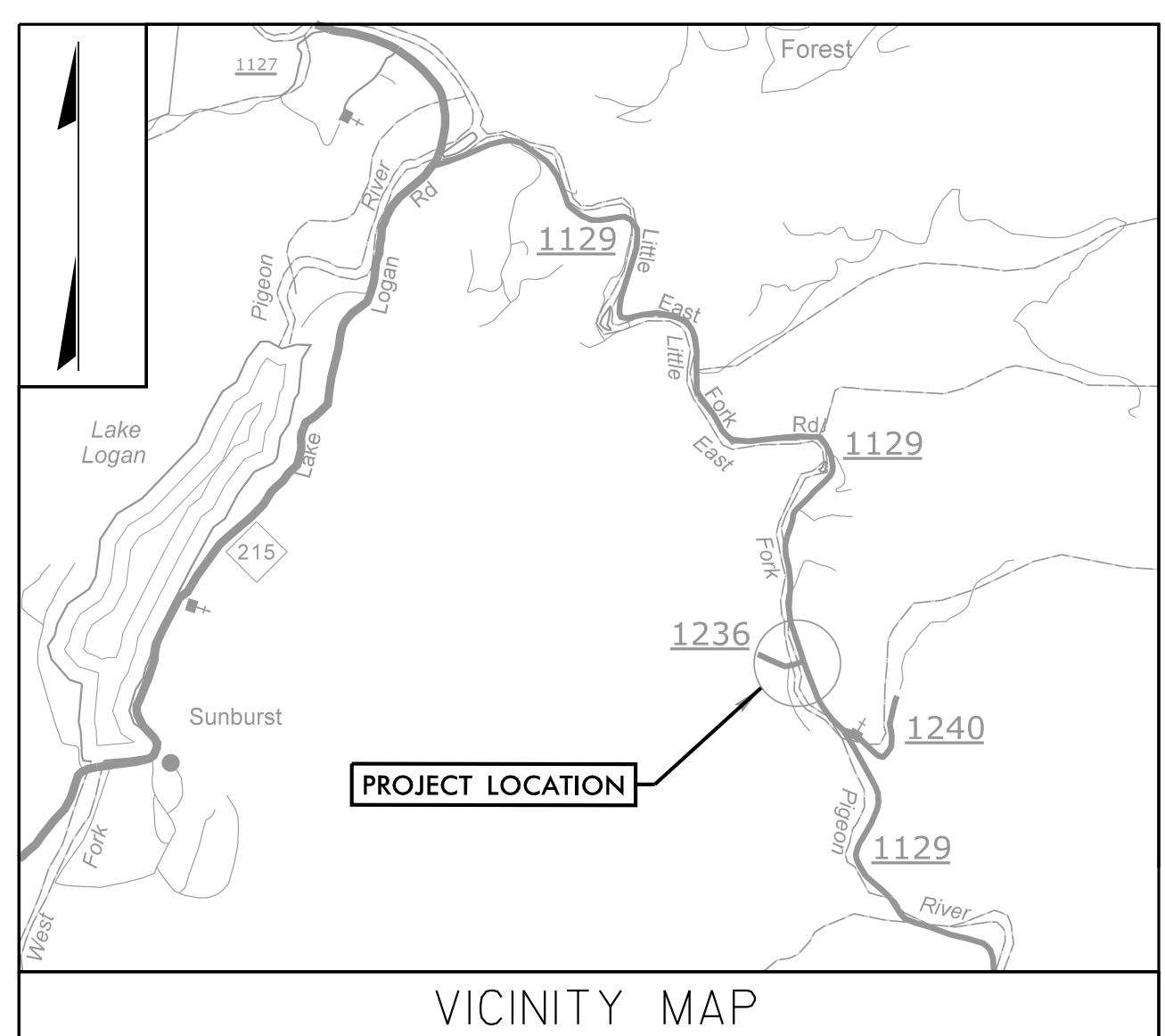
N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

HEMC PLAN, ADDED 2/14/17
AT&T PLAN, ADDED 2/14/17
REVISED STORM DRAINAGE, ADDED 5/17/18
REV. AT&T PLAN, ADDED 10/24/18
100% PLANS 12/17/20

TIP PROJECT: 17BP.14.R.174

CONTRACT: DN00493

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.174	UO-1

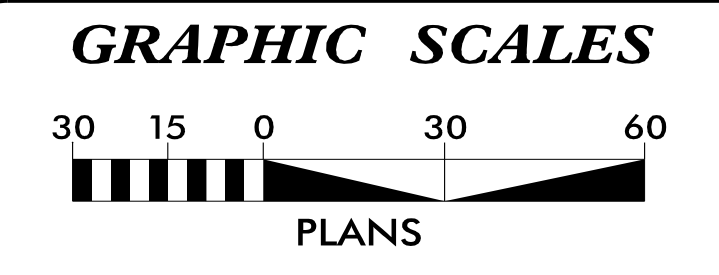
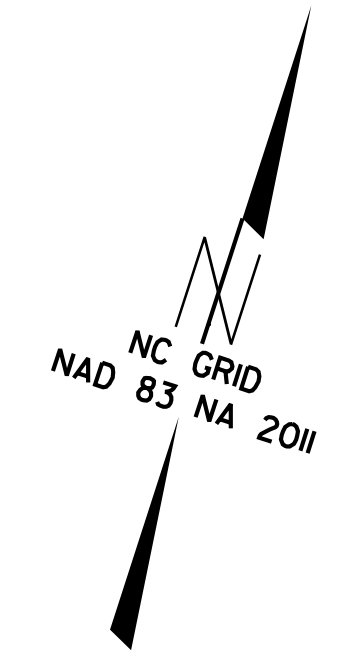
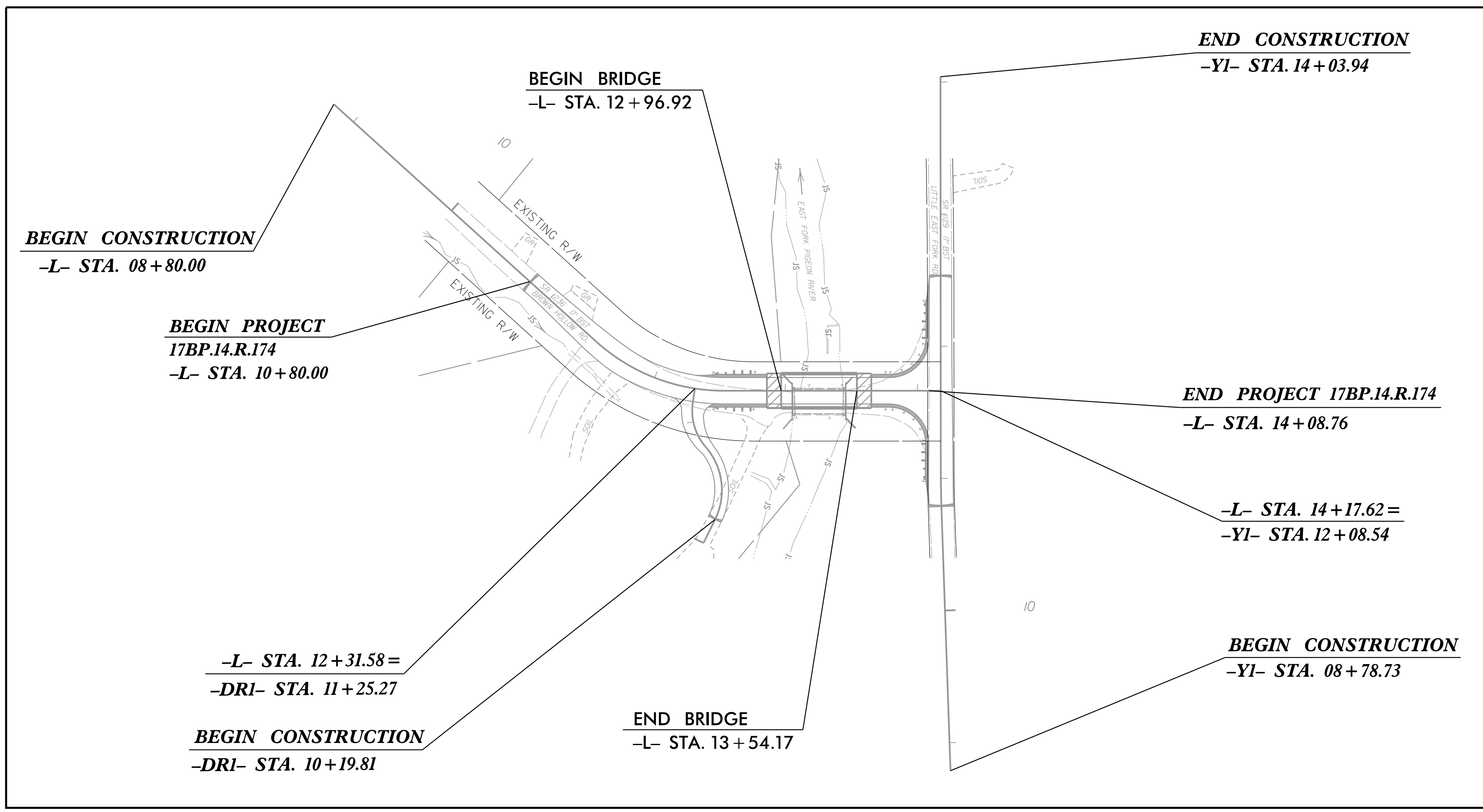


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS HAYWOOD COUNTY

**LOCATION: BRIDGE NO. 401 OVER EAST FORK PIGEON RIVER
ON SR 1236 (BROWN HOLLOW ROAD)**

**TYPE OF WORK: AERIAL POWER & TELEPHONE,
BURIED TELEPHONE**



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UO-1	TITLE SHEET
UO-2	UBO PLAN SHEET

UTILITY OWNERS WITH CONFLICTS

(A) POWER - HAYWOOD EMC
(B) TELECOMMUNICATIONS - AT&T

PREPARED IN THE OFFICE OF:

Vaughn & Melton
Consulting Engineers
1318-F Patton Avenue
Asheville, N.C. 28806
(828) 253-2796

Lynn Kieselhorst, P.G. PROJECT UTILITY MANAGER

PREPARED FOR THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES ENGINEERING
SECTION**

1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

Robert Golding DIV. UTILITY ENGINEER
Bill Green DIV. UTILITY COORDINATOR

HEMC PLAN ADDED 2/14/17
 AT&T PLAN ADDED 3/1/17
 REVISED STORM DRAINAGE ADDED 5/17/18
 REV. AT&T PLAN ADDED 10/24/18
 100% PLANS 12/17/20

PROJECT: 17BP.14.R.174

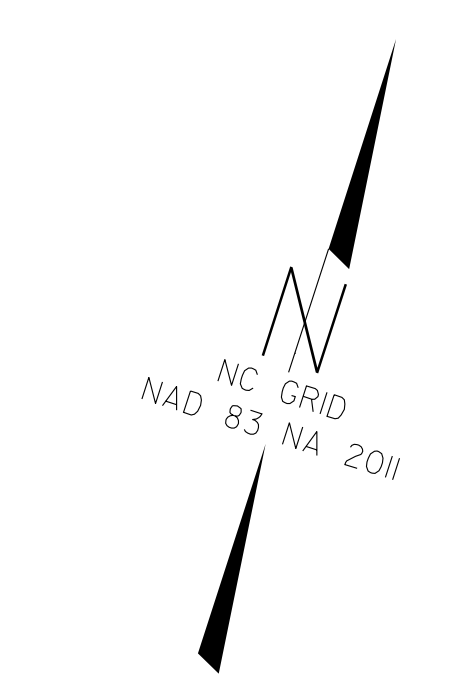
CONTRACT: DN00493

STRUCTURE 430401
HAYWOOD COUNTY

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.174	UO-2

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



BEGIN CONSTRUCTION
-L- STA. 8+80.00

BEGIN PROJECT 17BP.14.R.174
-L- STA. 10+80.00

NEW AT&T GUY ANCHOR, ABANDON EX. BURIED TELEPHONE LINES BETWEEN POLES

REMOVE EXISTING GUY ANCHOR
NEW HEMC GUY POLE & ANCHOR

PROPOSED STORM DRAINAGE & AT&T CROSSINGS

STR. NO.	TOP	INVERT	PIPE SIZE	LENGTH
DI 0405	3006.00	3000.25	36"	112'
PO 0406		2994.50		
PI 0407	GS CL	3015.75	15"	39'
PO 0407	3017.83	3015.00		

PI = PIPE INLET
PO = PIPE OUTLET

BEGIN CONSTRUCTION
-DRI- STA. 10+19.81

REMOVE EXISTING AT&T POLE, SHIFT AERIAL LINE TO NEW POLE

NEW AT&T SPAN GUY, ADDED BELOW POWER LINE

BEGIN CONSTRUCTION
-YI- STA. 8+78.73

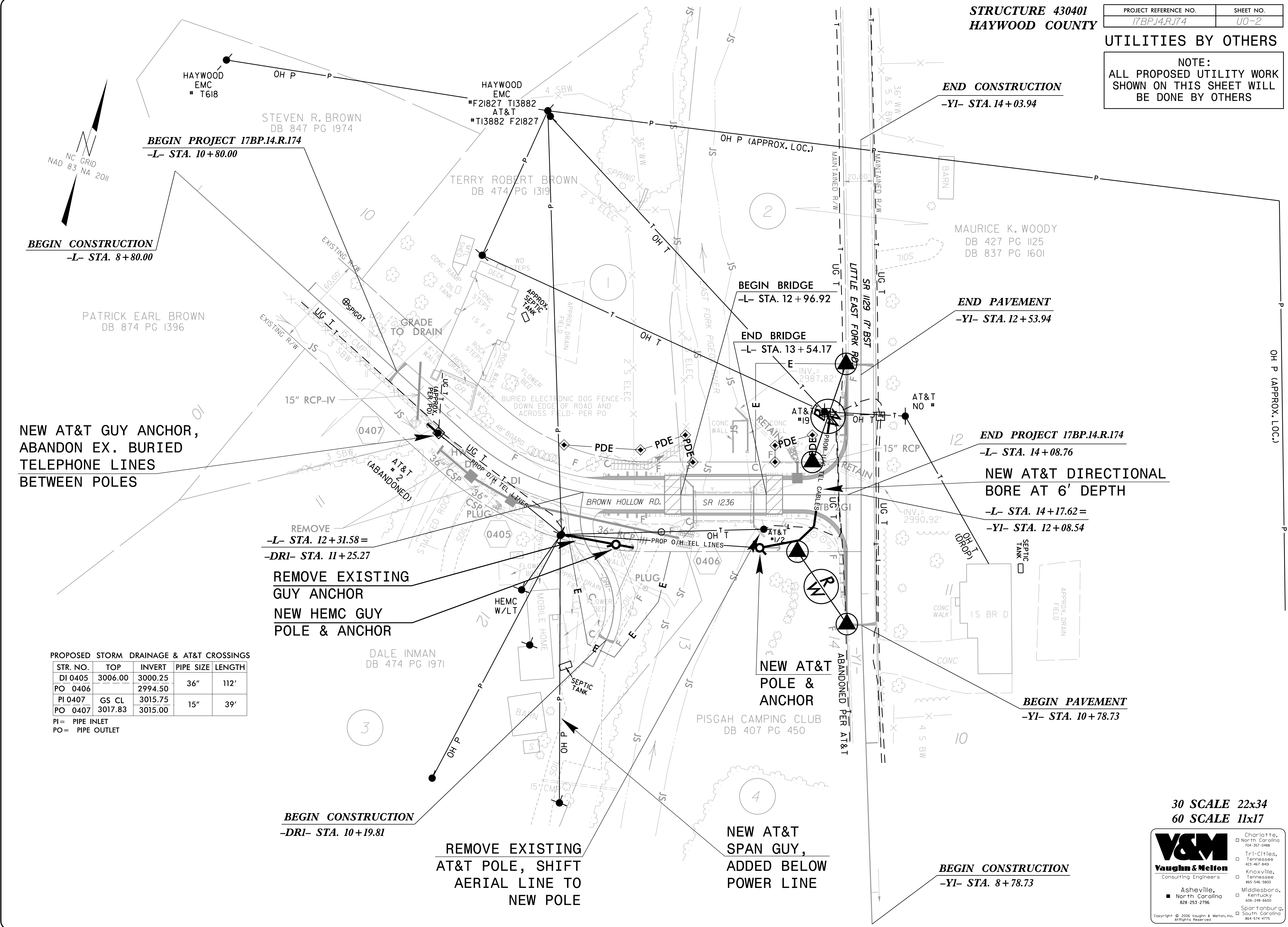
BEGIN PAVEMENT
-YI- STA. 10+78.73

NEW AT&T DIRECTIONAL BORE AT 6' DEPTH
-L- STA. 14+17.62 =
-YI- STA. 12+08.54

END PROJECT 17BP.14.R.174
-L- STA. 14+08.76

END PAVEMENT
-YI- STA. 12+53.94

END CONSTRUCTION
-YI- STA. 14+03.94



V&M PROJECT #31630-11
 TRANSPORTATION/31630-11/HAYWOOD_401/UTILITIES/UO-2.DGN

30 SCALE 22x34
60 SCALE 11x17

Charlotte, North Carolina 704-371-0488
 Tri-Cities, Tennessee 423-461-8401
 Knoxville, Tennessee 865-546-5800
 Asheville, North Carolina 828-253-2796
 Middlesboro, Kentucky 606-248-6000
 Spartanburg, South Carolina 864-574-4775

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